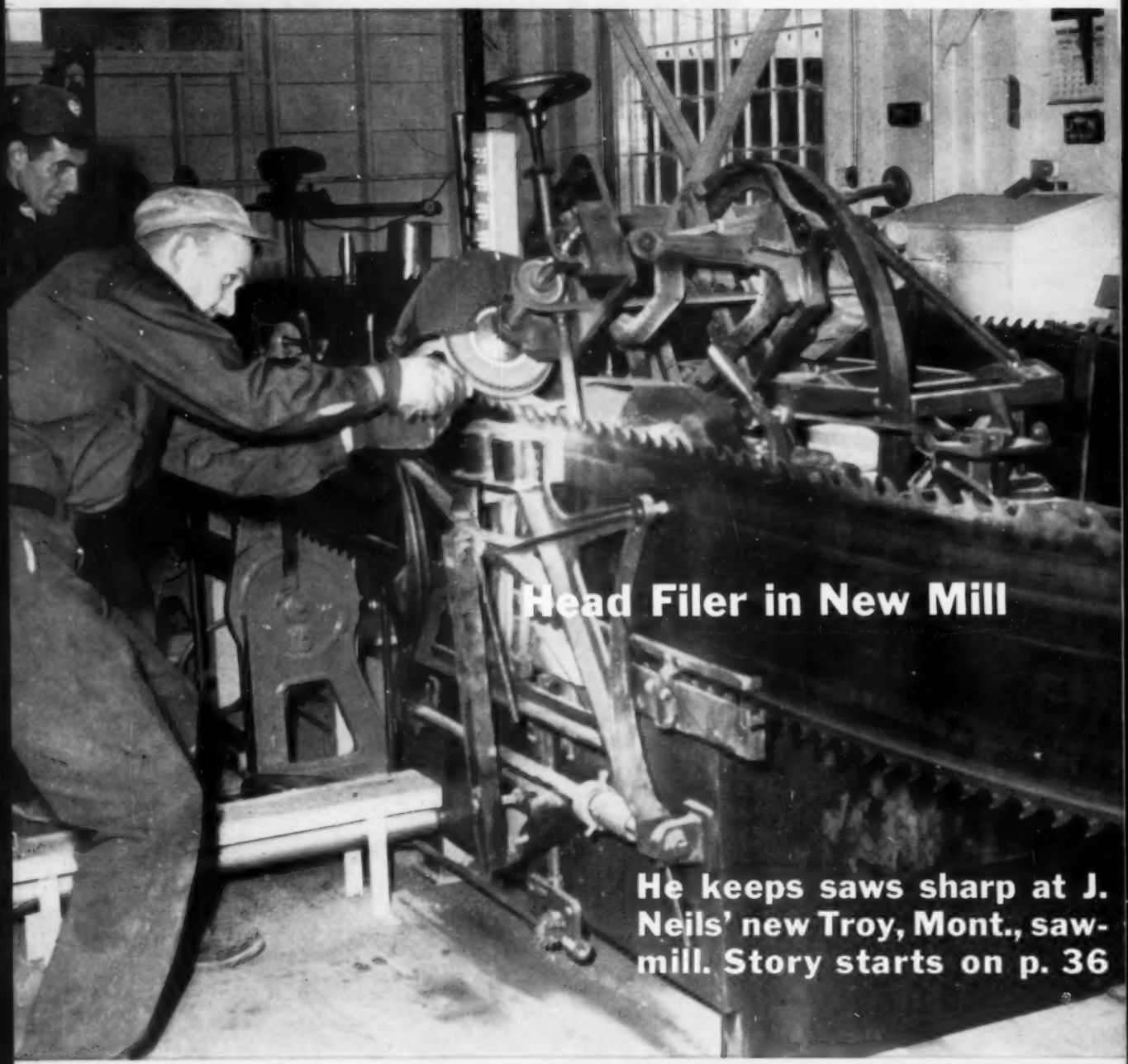
The Lumberman

DECEMBER 1956

Company Converts
To Truck Haul . . . . pg. 42

Mill Trimmer Uses
"Memory" Device . . pg. 48



Head Filer in New Mill

He keeps saws sharp at J. Neils' new Troy, Mont., sawmill. Story starts on p. 36

Montana's Newest Sawmill Features Minimum Maintenance . . . . . Page 36

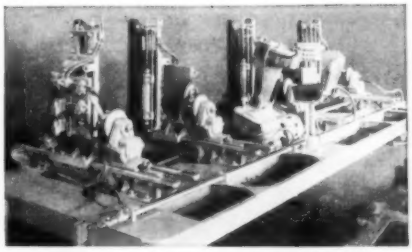
ABP ABC
A MILLER FREEMAN PUBLICATION

50 cents

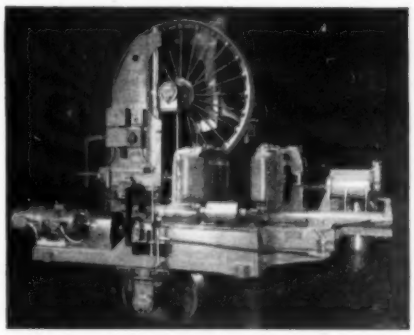
Higher Production
Lower Overhead
Greater Profits

PRESCOTT

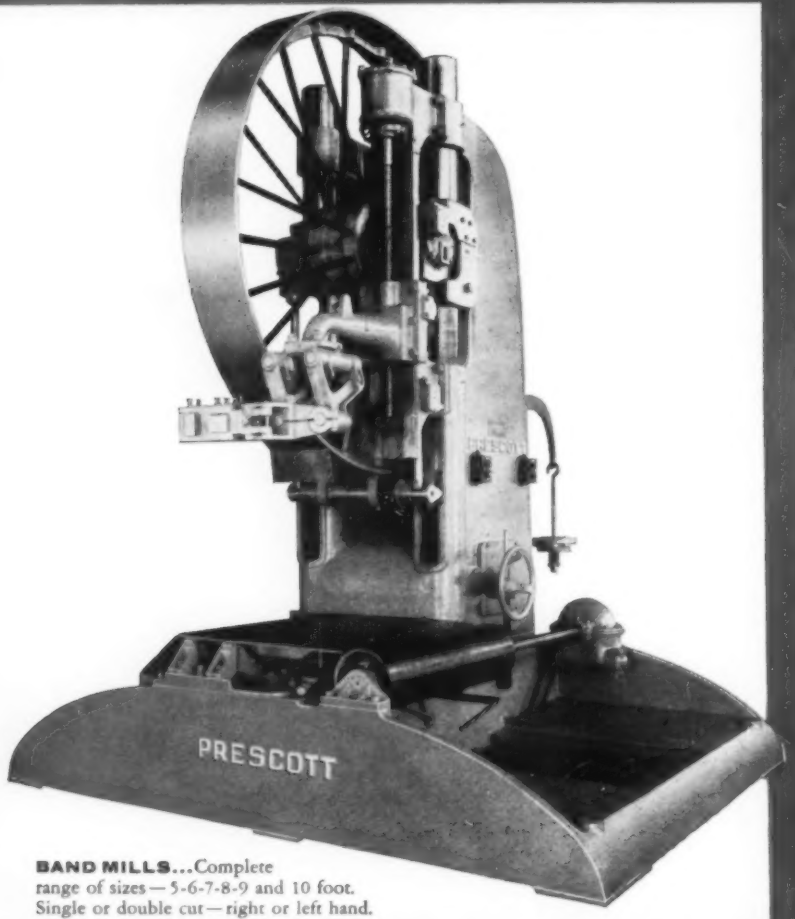
Sawmill Machinery



CARRIAGES Rack and pinion; screw block. Medium and heavy-duty. Right and left hand.



VERTICAL AND HORIZONTAL RESAWS Complete range of sizes—5-6-7 foot. Precision accuracy—minimum kerf waste.



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MORE SALEABLE LUMBER PER LOG is the result of the advanced engineering, service-proved basic features, heavy-duty construction, and the operating precision of Prescott sawmill machinery. You get maximum quantity and grade from every log.

LOWER PRODUCTION COSTS are assured. Log loading and turning are stepped up. You can cut more lines per minute with less waste. Downtime is virtually eliminated and slow, costly, old fashioned methods can be scrapped immediately.

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CALL, WIRE OR WRITE for complete information, detailed technical data, illustrated literature or the services of a trained sawmill engineer. No obligation, of course.

For Profitable Sawmill Operation... **SPECIFY**

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HIGH EFFICIENCY, HEAVY-DUTY SAWMILL MACHINERY

THE PRESCOTT COMPANY, *Menominee, Michigan*

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NO BAR TO 45-TON PAY LOADS!

A PARTICULARLY FIENDISH COMBINATION of steep grades and rocky roads complicates the hauling problem on the private right of way in the Sitkum Camp show of Coos Bay Timber Co., Coos Bay, Oregon. Elevations rise sharply from near-sea-level to 2,500 feet—and old records of chewed-up tires attest the grim reputation of the area. But today, Road Lug and Hard Rock Lug tires—both by Goodyear—keep 12 trucks rolling, 11 months of the year, with an average daily take-out of 200,000 board feet!

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SPEED THE JOB, CUT COSTS—BY ENDING TUBE AND FLAP TROUBLES!
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PROVED THE MOST AIRTIGHT ASSEMBLY, Goodyear tubeless tires and rims are standard on foremost original equipment—or may be specified for even the largest vehicles.

And here are the tubeless advantages:

Ends tube and flap troubles—ends tube replacement—mounting is faster, simpler, safer and surer. Tires run cooler, injuries are easy to detect—and can often be repaired *without removing tire.* This keeps failures at record LOWS—and much expensive down time is completely eliminated.

But be sure to specify *Goodyear* Tubeless—and see your *Goodyear* dealer about economical change-over. Goodyear, Truck Tire Dept., Akron 16, Ohio.

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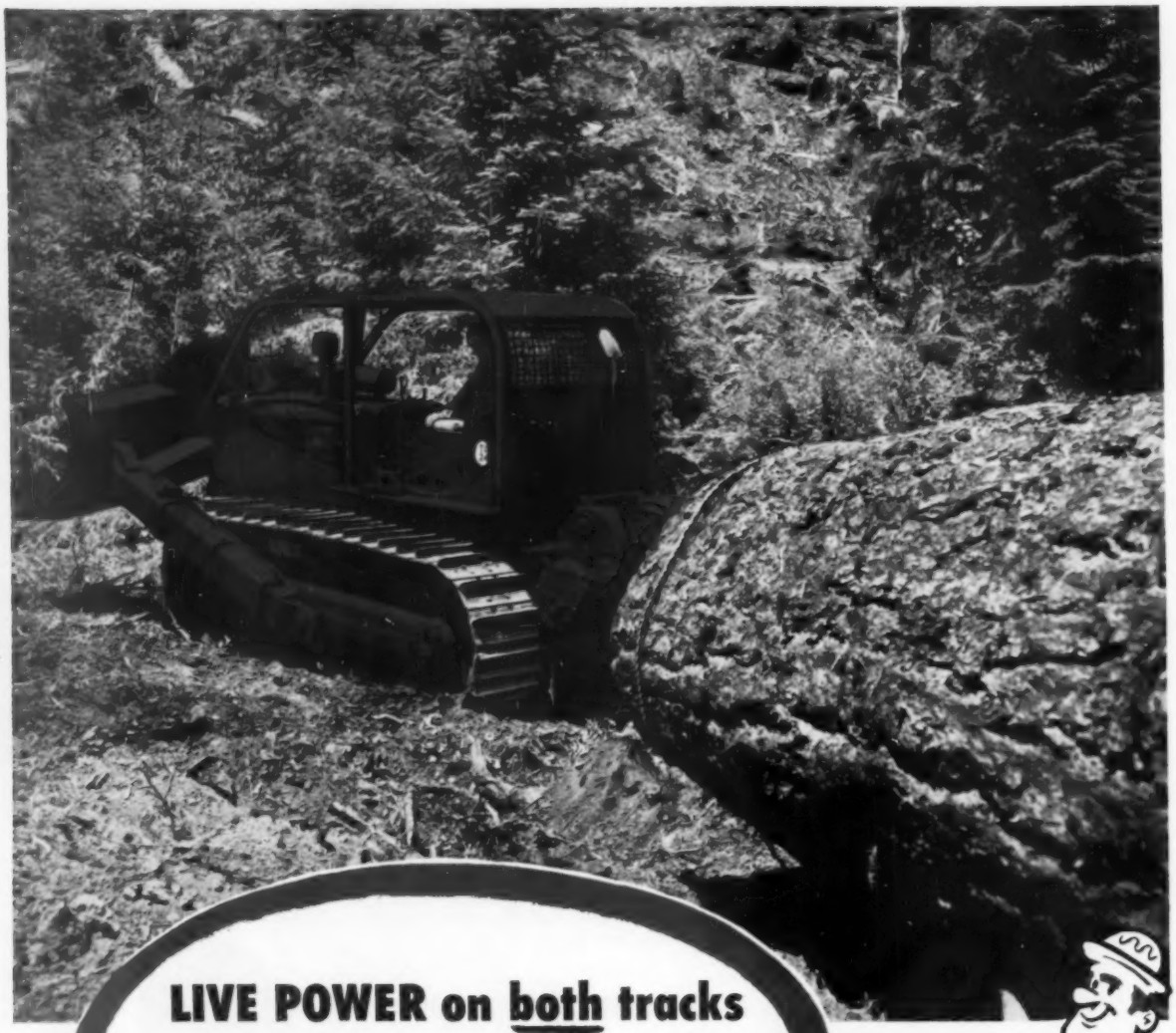
Road Lug—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio



LIVE POWER on both tracks

"Big Red" TD-24's turn smoothly up adverse grades with as big a turn of logs behind as it can pull straight ahead. Almost builds its own roads by hugging mountain slopes with inside track in low gear and pushing a full load ahead of the dozer. It's the kind of machine a logger dreams about!

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REMEMBER "it pays all-ways to own TD-24's" says BIG RED

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The Lumberman

The Production Journal of the Forest Products Industries Since 1889

Volume 83 **DECEMBER, 1956** **Number 13**

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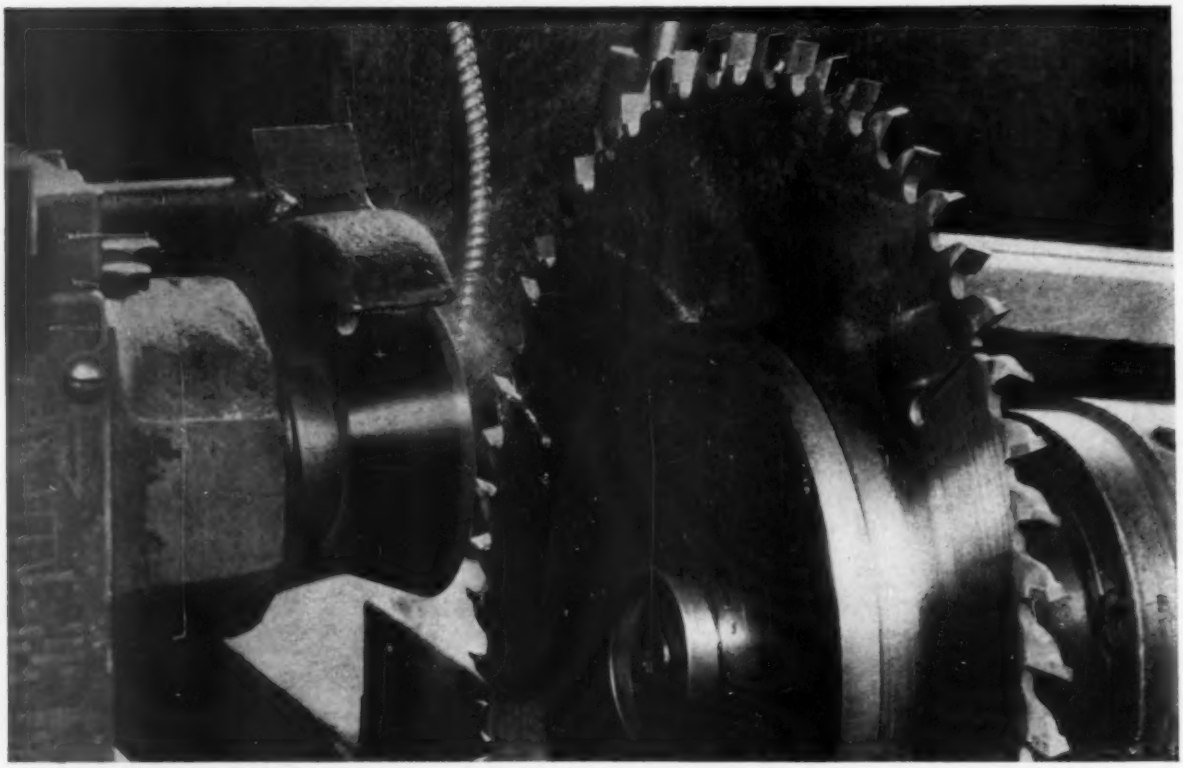
PLENTY OF ABILITY FOR HANDLING

The best thing that could happen to this saw . . . is happening

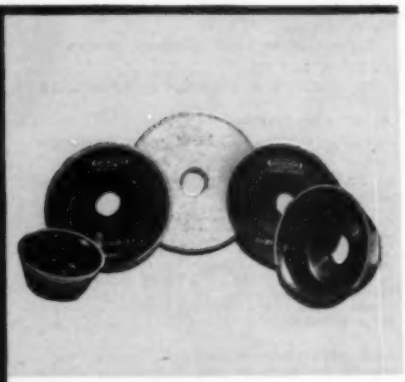


The Norton Diamond Wheel sharpening this carbide-tipped saw is engineered for the size-holding ability that assures uniform height to each individual tooth. Result: a better-performing saw that will give longer service between sharpenings. Extra fast cutting action and very low rate of wear are other money-saving advantages of Norton diamond wheels. Available in two resinoid bond types — regular B resinoid for wet grinding and B6 for dry grinding.

Diamond wheels save time and money in grinding carbide-tipped saws and cutters. The question is: *which diamond wheels save the most?*

Norton's long leadership in diamond wheel development and manufacture and Norton's priceless experience are your safest buying guides. Backed by many news-making "firsts", Norton diamond wheels are the recognized "Crown Jewels" for carbide grinding, with a reputation for cutting production costs.

See Your Norton Distributor for prompt deliveries, and for practical help in wheel selection. Or write to the nearest District Office of NORTON COMPANY, Worcester 6, Mass. Distributors in all industrial areas, listed under "Grinding Wheels" in your phone book, yellow pages. Behr-Manning, Troy, N. Y., a division of Norton Company. *Export:* Norton Behr-Manning Overseas Incorporated, Worcester 6, Mass. W-1701



The "Crown Jewels" For Carbide Grinding. Norton was first to introduce each type of diamond wheel — resinoid, vitrified and metal bonded . . . does all its own sizing, grading and laboratory checking of diamonds . . . duplicates wheel specifications with constantly controlled accuracy . . . brings you a complete line, with fast service from full stocks.

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Making better products... to make your products better

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PLENTY OF ABILITY FOR HANDLING The BIG ONES!

The Northwest unloads the trailer from the truck and swings it into place.

A Model 41, owned by Carpenter and Wood of Sutherlin, Oregon, swings another big one onto the trailer. The Model 41 is a 1-yd. rig—a real 1-yd. rig, not built up or modified from another rating. The 41 is built as a 1-yd. machine from the ground up and is capable of delivering the output you have a right to expect from a full 1-yd. machine.

It brings you *all* Northwest advantages. Positive Traction on both crawlers while turning as well as when going straight ahead. The "Feather-Touch" Clutch Control, the Cushion Clutch, Uniform Pressure Swing Clutches, range of selection in Boom Hoist Equipment and other advantages that make it a real Loggers Rig in this capacity.

Add the fact that it is easily convertible to standard Crane, Dragline, Shovel or Pullshovel by simply changing booms, a feature which assures greater versatility for you and gives greater value to the man who buys it from you.

There is a lot more to tell you and there is a size and capacity to suit your problem. Plan to have a Northwest. Ask to see a Northwest Man.

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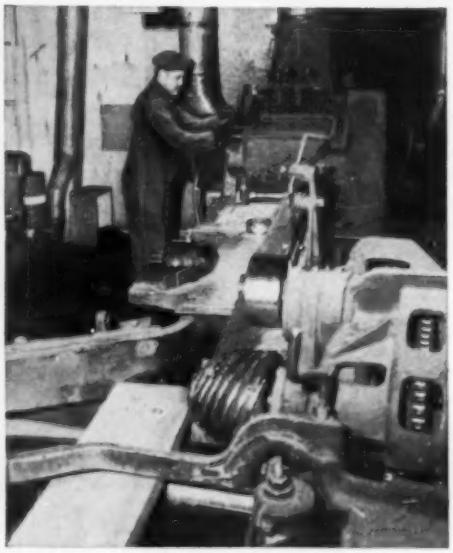
Standard Engineer's Field Report

CASE HISTORY

PRODUCT: Calol Multi-Machine Oil ICH

FIRM: The Long-Bell Lumber Company, Weed, Calif.

Cutting head bearings run 8 full years without a failure due to lubrication



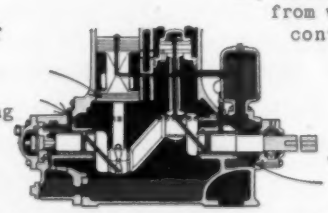
CUTTING HEADS on this Stetson-Ross planer (right), turn in anti-friction SKF bearings lubricated with Calol Multi-Machine Oil ICH. Like other planers in the Long-Bell Lumber Company's mills at Weed, California, this machine runs 12 months a year, yet stays in excellent operating condition. Only maintenance required is occasional inspection by oiler.

Ray Seitz (far left), Planing Mill Foreman, says, "We've used Calol Oils all eight years I've been here, and never lost a cutting head bearing due to lubrication." The 12-knife cylinder turns at 3600 rpm, planes 1 x 10 boards at 480 feet a minute. Air compressors and lift truck hydraulic systems at the mill are also lubricated with Calol Multi-Machine Oil ICH, with equally good results.

Why Calol Multi-Machine Oil ICH reduces maintenance on bearings, pumps, compressors

Resists formation of deposits

Separates rapidly from water and contaminants



Metal-wetting ability keeps oil on bearings under heaviest loads

Assures efficient seal of stuffing-box glands

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LOG

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Our Cover Picture

ONE OF THE NEWEST big mills in the western pine region is J. Neils Lumber Co. new band sawmill at Troy, Montana. And it has a very modern filing room, equipped to keep its 9-ft. headrig band and 6-ft. resaw band and numerous trimmer and slasher saws in top operating condition. Head Filer Ted Christofferson is shown above cleaning the grinding wheel on the 9-ft. sharpener. Turn to page 36 for the first story on this new mill.

Industry Meetings

December

Northwest Section, American Society of Photogrammetry, Empress hotel, Victoria, Dec. 4

Forest Pest Committee, Empire hotel, Victoria, Dec. 4.

Western Forestry & Conservation Assoc., Empress Hotel, Victoria, B. C., Dec. 5-7.

Red Cedar Shingle Bureau, annual meeting, Olympic hotel, Seattle, Dec. 7.

Northwest Scientific Association, Student Union Bldg., University of Washington, Seattle, Dec. 27-28.

January, 1957

Truck Loggers Assoc. of B. C., Hotel Vancouver, Vancouver, B. C., Jan. 16-18.

International Conference on Hardboard and Particle Board, sponsored by Food & Agri. Org., U. N., Geneva, Switzerland, Jan. 21 - Feb. 7. (Contact Editor, THE LUMBERMAN, for further details.)

National Wooden Pallet Mfrs. Assoc., 10th semi-annual meeting, Hollywood Beach hotel, Hollywood, Fla., Jan. 27-29.

Redwood Region Conservation Council, 6th annual membership and board of directors meeting, Eureka Inn, Eureka, Calif., 9 a.m., Jan. 12.

Southern Forest Tree Improvement Conference, 4th biannual, Univ. of Georgia campus, Athens, Ga., Jan. 8-9.

Northwest Hardwood Association, quarterly meeting, Anderson Hall, University of Washington, Seattle, 10 a.m., Jan. 19.

National Wooden Box Association, annual meeting, Boca Raton, Fla., Jan. 31 - Feb. 1.

February, 1957

7th Annual California Governor's Industrial Safety Conference, Biltmore Hotel, Los Angeles, Feb. 7-8.

Governor's Industrial Safety Conference, Biltmore Hotel, Los Angeles, Calif., Feb. 7-8.

Sierra - Cascade Logging Conference, Sacramento, Feb. 14-16.

March, 1957

National Association of Commission Lumber Salesmen, Coronado Hotel, St. Louis, Mo., March 7-9.

Southern Forestry Conference, Dinkler-Plaza Hotel, Atlanta, Ga., March 14-15.

Western Pine Association, annual meeting, Sheraton-Palace hotel, San Francisco, March 7-8.

West Coast Lumbermen's Association, annual meeting, Multnomah hotel, Portland, Ore., March 27-28.

Intermountain Logging Conference, 19th annual, Davenport hotel, Spokane, Wash., March 25-27.

April, 1957

Olympic Logging Conference, Empress Hotel, Victoria, B.C., April 4-5.

May, 1957

Western Kiln Clubs, Eugene, Ore., May 15-17.

Redwood Region Logging Conference, 19th annual, Eureka, Calif., May 24-25.

June, 1957

National Plywood Distributors Assn., annual convention, Edgewater Beach Hotel, Chicago, June 13-15.

THE Lumberman

presents as Tall Timber . . .

W. F. McCULLOCH

Tall Timber

W. F. McCULLOCH
Dean of School of Forestry, Oregon State College, Corvallis, Oregon.

A FORESTRY EDUCATOR with the bark on—and with engine oil, is Walter Fraser McCulloch, Ed. D., Dean of the School of Forestry, Oregon State College, at Corvallis. "Mac"—as the dean is called by even the forestry freshmen—was a tallowpot in his time, as well as a logger. All this beside his studies at seven separate institutions of the higher learning, his teaching years and his writing.

Dean Mac of the OSC "Fernhoppers" was a child laborer in the woods more than 34 years ago, serving then as compassman and cruiser for the old Dominion Forest Service in Canada. There followed four summers with the British Columbia Forest Service, on protection, and with parts of two more years employed in forest research.

He was graduated from the provincial university as a B.A. in 1925, just far enough out of his teens—he was born March 21, 1905—to escape the dreadful description of "prodigy." Young McCulloch boarded a ferry for Seattle in 1926, and while coming of age on Puget Sound he began the process of naturalization as a citizen of the U.S.A.

The McCulloch career in education continued with a year of graduate work at the University of Washington. Then he climbed an east-bound train, heading for the New York State College of Forestry at Syracuse University and another two years of graduate study. By 1930 the young man from the Big Timber Coast was well girded and armed with forest technology, apparently ready for great things in his profession.

BUT FOR THE NEXT FOUR years he pursued the ways of learning by experience in railroad and steamboat jobs in the Great Lakes region.

Then the prodigal returned to forestry, teaching at Syracuse, later operating a nursery and an experiment station for Michigan State College. The New York College of Forestry yielded him an M.F. in 1936. His further studies were in Education, and he pursued them at the University of Southern California, Oregon State College and the University of Oregon.

Oregon State Forester Nels Rogers drafted McCulloch for service as an assistant in the years 1942-1945. They were critical years in the Oregon woods.

McCULLOCH'S LAST BIG JOB in state forestry was camp boss in the fight to contain the third great fire—1945—to sweep the 300,000 acres of the Tillamook Burn—a forest of giant snags since the tree-killing holocaust of 1933 and the second fire in 1939.

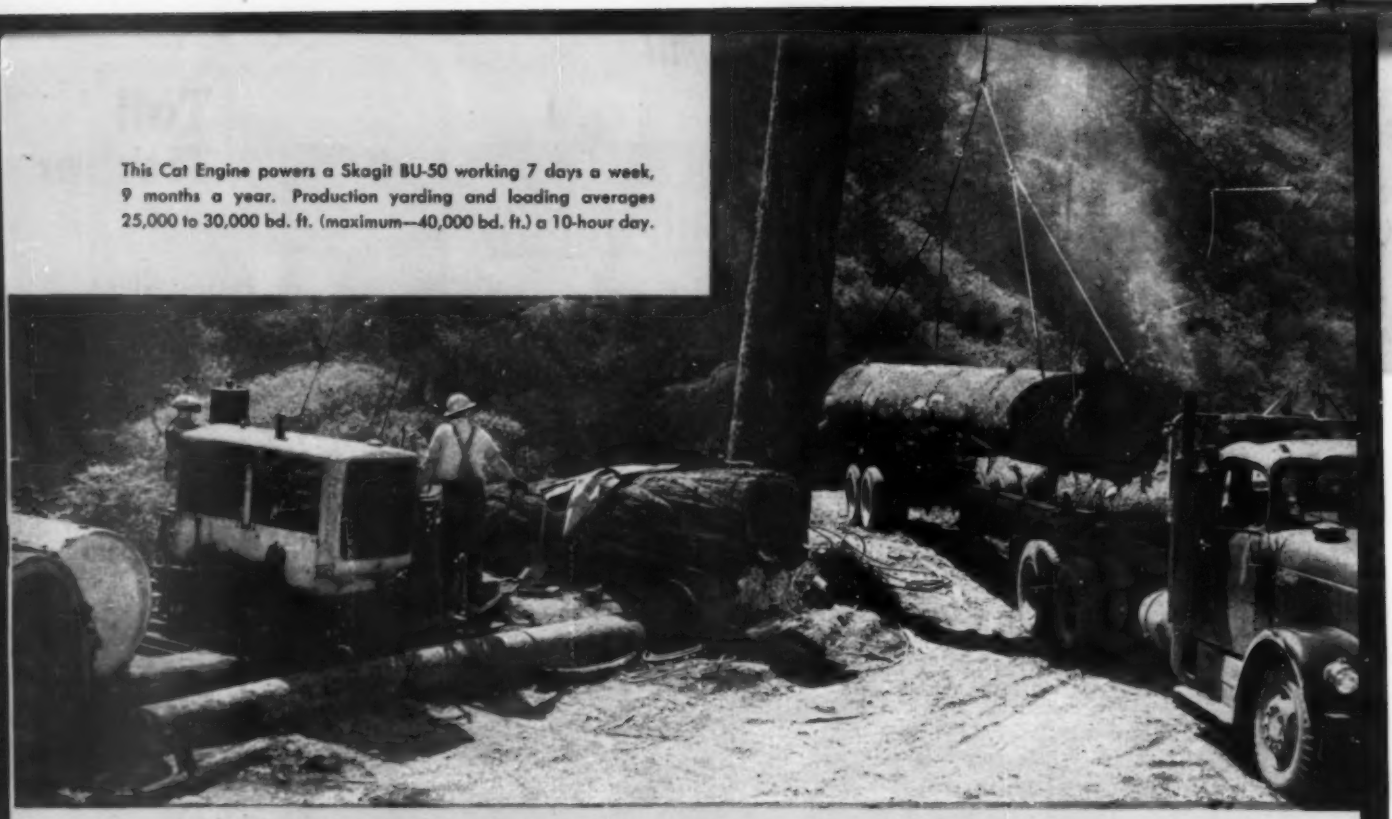
In the fall of '45 McCulloch returned to Corvallis to head up the School of Forestry's Department of Forest Management. His advanced studies in education led to his work for the school as counselor and as developer of a program of job placement and follow-up in the field for OSC forestry graduates, in addition to his departmental duties and classroom teaching.

In 1947 the University of Oregon granted Walter Fraser McCulloch, Professor of Forest Management at OSC, an Ed. D.

For a final slice, Mac was Acting Dean of the Corvallis forestry school in 1952-1953 while Dean Paul Dunn was on a year's leave of absence for special service in Chile. When Dunn left Corvallis early in 1955 to direct forestry for St. Regis Paper Company in New York, Mac was appointed to his place.

Personnel managers of the largest logging companies and forest products manufacturing corporations have united in support of the OSC program of record-checking on forestry graduates at one-, three- and five-year periods after graduation. It is an exhaustive follow-up on significant details of job performance, attitudes, human relations and phases of individual development in the making of a whole man in the way of life of a technically-trained forester.

"A forester is first a man." Walter Fraser McCulloch lives by this rule himself, in pursuits, hobbies and concerns that keep him in a working circle around a variety of things beside forestry, education, writing, and his personal life. A super-charged dynamo of energy, he is a catalyst who gets things done and inspires others to do more.



This Cat Engine powers a Skagit BU-50 working 7 days a week, 9 months a year. Production yarding and loading averages 25,000 to 30,000 bd. ft. (maximum—40,000 bd. ft.) a 10-hour day.

CAT* POWER HELPS CHARLES E. STUART EARN HIS "BREAD AND BUTTER"

South of Klamath, California, the G. and S. Logging Co. is working 280 acres of private land. The timber is about 90% redwood with some spruce. A Cat D318 Engine powers that outfit's Skagit BU-50, which yards logs about 500 feet and loads them on trucks. Operation averages 10 hours a day, 9 months a year. Production varies between 25,000 and 30,000 bd. ft a day, with a maximum of 40,000 bd. ft. Says Charles E. Stuart: "We feel that Cat power is the best you can get. It's economical to operate and very durable. Our D318's sustained power enables us to yard and load our biggest logs."

One of the smaller engines in the Cat power line is the D318 that delivers 119 HP. This compact 6-cylinder, 4-cycle, heavy-duty unit responds quickly to sudden snags with sustained power. Easy to operate, it requires *no* fuel system adjustments. There are *no* cylinder ports or air boxes to clean. As for economy, it burns low-cost fuel such as No. 2 furnace oil without fouling for 3-way savings—cheaper fuel, less of it and minimum maintenance. Like all rugged Caterpillar Diesels, it's built to do *more* work at *lower* cost for you!

Cat Engines range in size up to the 650 HP (maximum output capacity) D397. Whether you need power for a yarder, loader or sawmill, there's a modern heavy-duty Cat Diesel that's exactly right for you. Every engine is designed for long life—many are still working profitably after 50,000 hours. And you're backed 24 hours a day by prompt service from your Caterpillar Dealer. Ask him to show you how a Cat Diesel can step up your production and profits!

Caterpillar Tractor Co., San Francisco, Calif.; Peoria, Ill., U. S. A.

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MODERN HEAVY-DUTY POWER

Davenport hotel, Spokane, Wash., March 25-27. 13-15. more.

The LUMBERMAN'S LATE FOREST INDUSTRIES NEWS

These Are the Names in the News—

• John S. Barron, after almost 36 years of service with The Diamond Match Co. and for the last 10 years general manager of the company's Northwest Lumber Division, has elected early retirement. Henry L. Kerr has been appointed acting manager of the Diamond Match Northwest Lumber Division and of the company's two subsidiaries, E. C. Olson Lumber Co. and Kaniksu Forest Products, Inc. He joined Diamond Match in 1947 and has been sales manager of the Northwest division since 1953. Headquarters of the Northwest Lumber Division are at Spokane, Wash. Barron states he has no particular plans after his special assignments with Diamond Match terminate the first of the year, but his present intentions are to remain active in some phase of the lumber industry.

• A logger has been elected the new state land commissioner of Washington. He is Bert Cole, 46, who promised he would dispose of his logging business at Forks, Wash., if elected, because of its "vested interest" relationship to the commissioner's job. Mr. Cole is recognized as a supporter for proposed consolidation of state land agencies into one central office.

• John L. Aram, formerly president, Boise-Payette Lumber Co., has accepted appointment as assistant to J. P. Weyerhaeuser, Jr., president of Weyerhaeuser Timber Co. This is a newly created position.

• L. R. Andrews, executive vice president of British Columbia Lumber Manufacturers Association, Vancouver, B. C., was one of Canada's representatives to the Fourth All-Australian Timber Conference being held in Melbourne this winter. Mr. Andrews knows Australia well, having spent many months there as a commissioner for the lumber industry.

• William B. Stover, for 22 years associated with Forest Survey work with Southern Forest Experiment Station, and for eight years in charge of the work, is now in private consulting work. He specializes in forest resource and related work, with headquarters in New Orleans, La.

• U. S. Regional Forester Fred H. Kennedy, Albuquerque, N. M., will shortly call for bids on some six million cords of pulp timber in Northern Arizona and Western New Mexico. This timber will be used in a 200 ton daily capacity pulp mill now being planned for that area.

• Harry H. Steidle, known throughout the U. S. as manager of the Prefabricated Home Manufacturers' Institute, is retiring. New manager is Conrad Harness, executive vice president of Houston Home Builders Assoc. Steidle was at one time a staff member of the Douglas Fir Plywood Association.

• Dr. Donald H. Clark, assistant technical director, Washington State Institute of Forest Products, told THE LUMBERMAN that the Institute's new charcoal pilot plant on the U. of Wash. campus in Seattle is now in operation. Chemical analysis of charcoal made from sawmill leftovers is being made. It is hoped that findings will lead to adoption of charcoal for industrial purposes in the state of Washington.

• Three key men in the Crossett Lumber Co. organization, Crossett, Ark., have been given new responsibilities. J. B. Anders, here shown, former Production Superintendent, has been elevated to a newly created position of Production Manager. W. D. Morse, Jr., who has been assistant production superintendent, is now filling a new position of General Superintendent. E. B. Brown, former Assistant Mechanical Superintendent, is now Chief Engineer and Purchasing Agent.

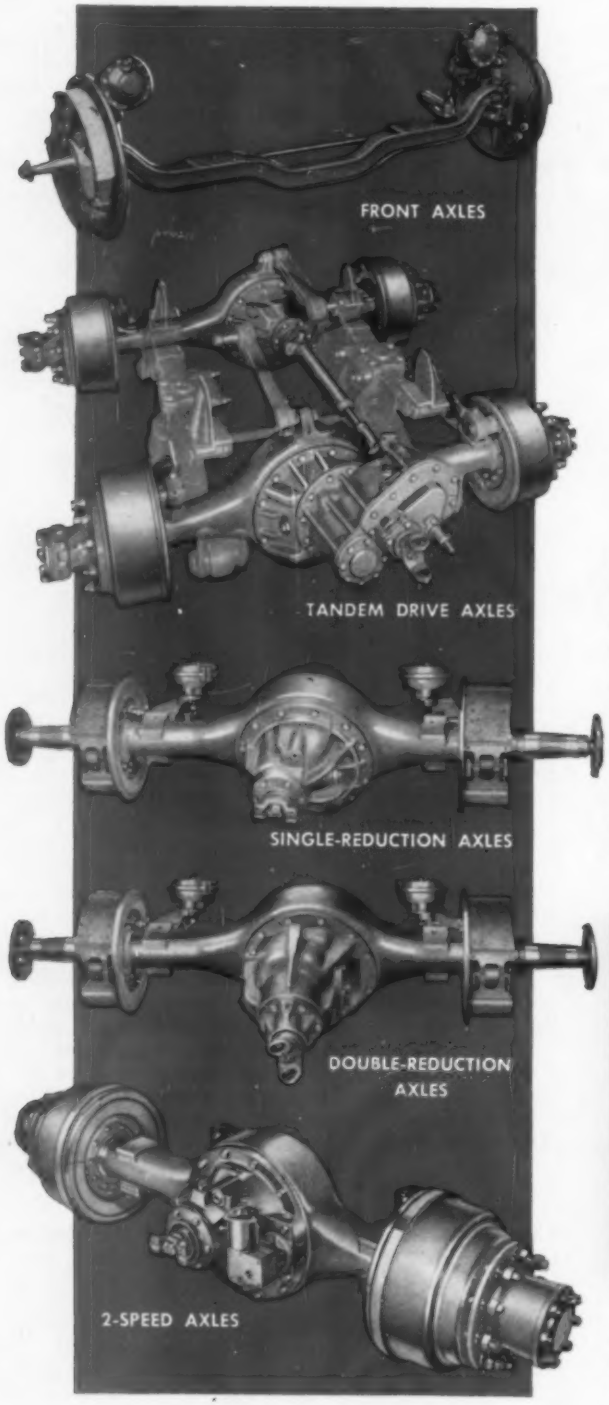
• Harold E. Peterson, former general sales manager of the M & M Wood Working Co., Portland, Ore., is now Western Division Sales Manager for the Atlas Plywood Corp., with headquarters in Los Angeles.

• Forestry executives from throughout the nation attended a 10-day Industrial Forestry Seminar at Yale U. school of forestry Oct. 22-Nov. 2. Prof. E. T. F. Wohlenberg led the seminar, one of the three scheduled for the winter months at Yale and Univ. of California. The seminars were launched by Yale last year and proved to be so successful that their scope has been broadened. A second seminar is scheduled for Berkeley, Calif., in January, and a third will be held at Yale next month.

• Clifford H. Schorling, sect.-treas. of the Renfro Lumber Co., Kansas City, Mo., is HooHoo's new Snark of the Universe. Other members elected to the Supreme Nine were: Grover G. Perdew, West Hartford, Conn., Supreme Hoo Hoo; R. W. Scott, Vancouver, B. C., Supreme Arcanoper; E. J. Gottschalk, Duluth, Minn., Supreme Scrivenoter; S. Eugene Madden, The Plains, Va., Supreme Senior Hoo Hoo.

• Zoltan Mottnyansky, graduate student in forestry at Oregon State colege, Corvallis, Ore., has been awarded the new $1000 Industrial Forestry association fellowship for advanced study in forestry.

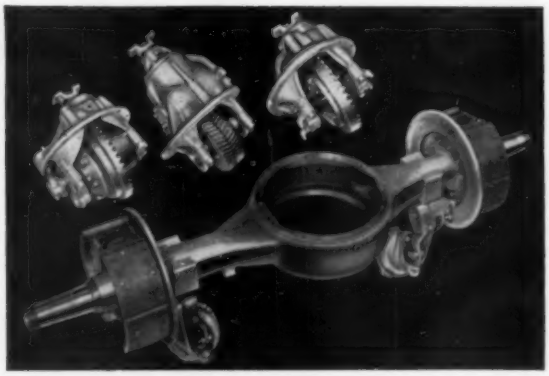
The fellowship is for 1956-57 and was established this year at OSC under a five-year program in memory of the late Col. W. B. Greeley, former chief of the U. S. forest service, manager of the West Coast Lumbermen's association and founder and director of the IFA.



EATON AXLES

Outstanding Performance Cuts Hauling Costs, Assures Longer Vehicle Life

Strict adherence to exacting quality standards, the most modern of production procedures, and important design advancements developed through Eaton's years of axle experience, combine to offer the truck operator axles with many worthwhile benefits. Eaton Axles, engineered for rugged stamina, keep trucks on the job, hold down operating and maintenance costs, and deliver more vehicle miles at lower cost per mile.



This rugged housing, used in famous Eaton 2-Speeds, is also used for Eaton single-reduction and double-reduction axles. The three types of heads are interchangeable.

EATON — *AXLE DIVISION*
MANUFACTURING COMPANY
CLEVELAND, OHIO

PRODUCTS: Sodium Cooled, Poppet, and Free Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Rotor Pumps • Motor Truck Axles • Permanent Mold Gray Iron Castings • Heater-Defroster Units • Snap Rings Springtites • Spring Washers • Cold Drawn Steel • Stampings • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers

• V. C. Brown, former manager of Cranbrook Sash & Door Co., Cranbrook, B. C., has been appointed manager of Crestrook Timber, ltd., the new company representing a consolidation of several forestry industry interests in eastern British Columbia. W. G. Spence, who was also a former executive of Cranbrook Sash & Door, is assistant manager; J. Gordon Hall, formerly with B. C. Forest Service at Nelson, is forestry engineer, and J. W. Kraft comptroller.

• Fir-Tex Insulating Board, Inc., St. Helens, Ore., has been sold to Kaiser Gypsum Company, for a reported consideration of $8,000,000. The property was acquired by Blythe & Co., in the Coos Bay Lumber Co.-Dant & Russell deal. The property will become the Insulating Board division of Kaiser Gypsum Co., which has plants at Seattle, Antioch and Long Beach, Calif.

• The State Forester of Oregon's recently released figures on the volume of timber removed in Oregon during 1955 shows an increase of nearly one billion board feet. The 1955 volume was 9,719,878,000 bd. ft., while in 1954 the total cut amounted to 8,860,-735,000 bd. ft. Douglas county led again with a whopping 1,969,444,000 bd. ft., while Lane county had 1,220,589,000 bd. ft .

• A new logging operation will be getting under way in the White and Routt National Forests, Colo., where a supply of wood will be obtained for the new 135-ton daily capacity pulp and paper mill to be built at Silt by the J & J Rogers Co., of Au Sable, N. Y. The company has purchased approximately 3,000,000 cords of dead Engelmann spruce.

• Hallack & Howard Lumber Co. of Denver has purchased the South Fork, Colo., sawmill of the Chicago Mill & Lumber Co. This is a modern mill which produces about 15,000,000 feet annually. George L. Barkhurst will be resident manager. Hallock & Howard operate a large mill at Winchester, Ida.

• American Forest Products Corp., San Francisco, is building a two million dollar paper mill at Neward, Calif.

• Walter F. Holzer, product manager of Crown-Zellerbach Corp., San Francisco, has succeeded Earl B. Birmingham, president of Hammond Lumber Co., as chairman of the Technical Advisory Council, University of California Forest Products Laboratory. William Agnew, vice president, Pacific Coast Co., Sonora, is vice chairman.

• Charles L. Morey has been named to head Crown Zellerbach Corp.'s chip procurement program in the Columbia River area. Mr. Morey comes to Portland from San Francisco where, for the past 5½ years, he was manager of the timber division of Fibreboard Products, Inc. In announcing Mr. Morey's appointment, E. P. Stamm, Crown Zellerbach vice-president for Northwest timber operations, called attention to the ever-increasing importance of sawmill and plywood leftovers as a source of wood for the pulp and paper industry.

Late Forest Industries News

• J. S. Butler has been named manager of the Rail Department and George Royer manager of the Plywood Department of the newly organized Dant & Russell, Inc., Portland, Ore.

• George L. Drake of Shelton, Washington, has been named to head the annual fund-raising campaign of the Forest History Foundation, Inc. He will be aided by a select group of business leaders in the forest products industries of Canada and the United States. This group lists among its members Leonard G. Carpenter, Gordon Cosens, MacDonald S. Denman, Harold S. Foley, E. L. Kurth, James L. Madden, G. W. E. Nicholson, R. E. Slaughter, Corydon Wagner, Fred K. Weyerhaeuser and David J. Winton. Dr. Frank H. Kaufert, director of the University of Minnesota's School of Forestry, is president of the Foundation.

• Dr. Winton Patnode, director of research of Weyerhaeuser Timber Co., has been appointed a member of the advisory board of the Washington State Institute of Technology, State College of Washington, Pullman, Wash.

• A. J. Jaenicke, a veteran of 42 years with the U. S. forest service, has been appointed special lecturer at Oregon State college, Corvallis, Ore. He is teaching courses in forestry management and protection. He will be at OSC fall and winter terms of the 1956-57 school year.

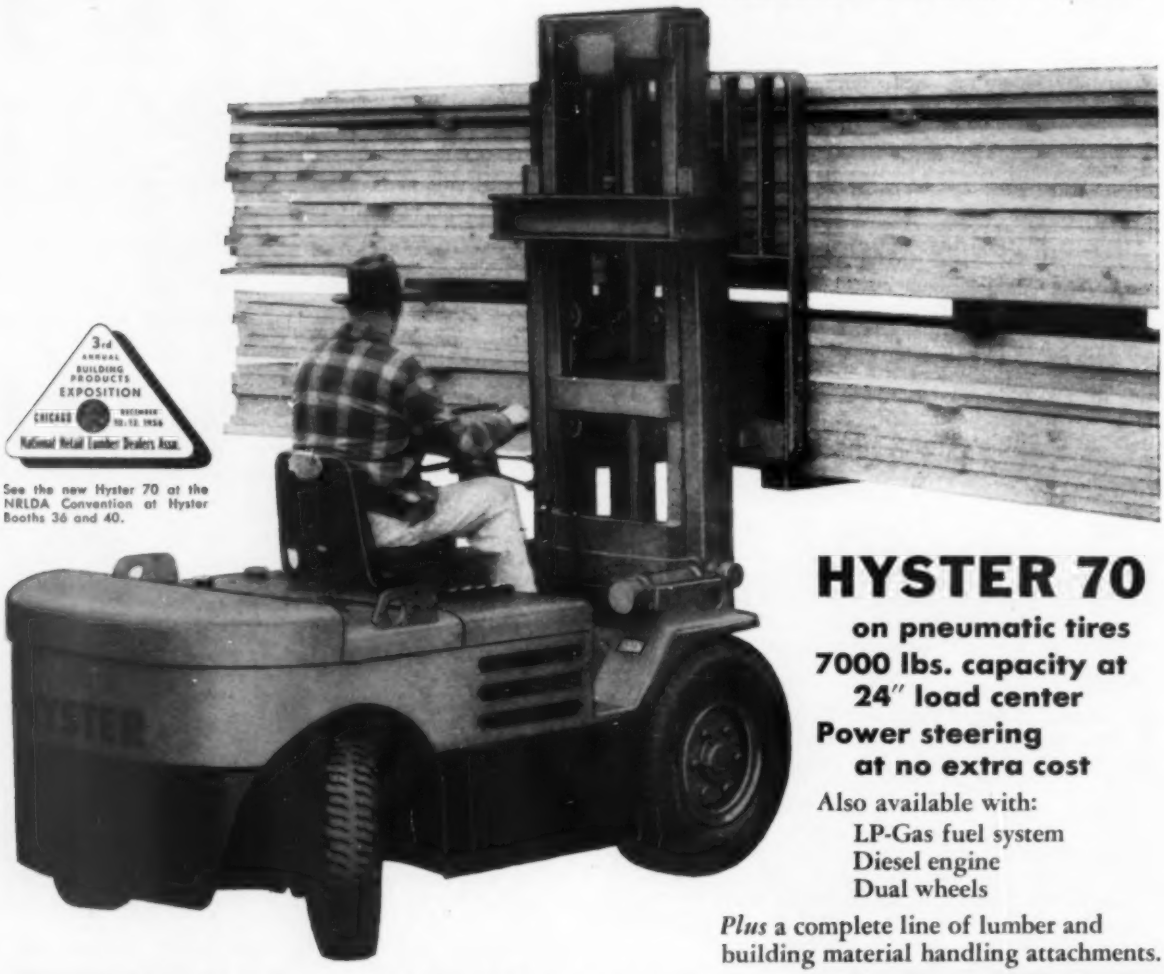
• Gilbert E. Liming, formerly chief forester for the northwest timber division of Rayonier, Inc., Hoquiam, Wash., has joined the staff of Georgia-Pacific Corp., Portland, Ore. Mr. Liming was with Rayonier for many years and at one time was employed by Weyerhaeuser Timber Co.

• Further stimulus to the prospect of the next World Forestry Congress being held in the Pacific Northwest in 1959 is the Washington State Forestry Conference resolution endorsing and supporting the Congress. This step was made Nov. 2 in Seattle. The Conference also specifically recommended the University of Washington campus as the congress site. The U. S. Forest Service, Society of American Foresters and Western Forestry & Conservation Association also have endorsed holding Congress here and have promised support.

• Georgia-Pacific Corp. has exercised its option to purchase the Hammond Lumber Co. The purchase price was announced as being around $75,000,000. The deal was financed by loans of $48.5 million from two insurance companies; the sale of stock totaling some $15,000,000 and some $15,000,000 worth of debentures to Hammond stockholders. President O. R. Cheatham stated the company planned to sell about $10,000,000 worth of Hammond properties. With this acquisition Georgia-Pacific now owns about 12,000,000,000 feet of timber. The Hammond company will be operated as the Hammond California Redwood Co.

LUMBERMEN!

HYSTER ANNOUNCES A NEW TRUCK DESIGNED ESPECIALLY FOR LUMBER AND BUILDING MATERIALS OPERATIONS



See the new Hyster 70 at the NRLDA Convention at Hyster Booths 36 and 40.

HYSTER 70

on pneumatic tires
7000 lbs. capacity at 24″ load center
Power steering at no extra cost

Also available with:
LP-Gas fuel system
Diesel engine
Dual wheels

Plus a complete line of lumber and building material handling attachments.

LUMBERMEN! This is the truck you've asked for... built especially to handle your kind of *loads under conditions* found in *your yards*... indoors *and* outdoors... with greater driving ease than your auto.

No other 7000 lb. pneumatic offers all these advanced features:

- Shortest turning radius (by far) makes possible narrower aisles, more storage area.
- Power steering as standard equipment.
- Larger engine provides extra power to climb steeper grades—keeps truck going in bad weather.
- Powerful brakes (largest braking area).
- Works inside a boxcar (the only 7000 lb. pneumatic that will do this).
- Single lever hoist and tilt control, speeds handling.
- Low overhead clearance, with full range of uprights (including free-lift) to suit your individual requirements.

Call your Hyster Dealer today. He is listed in your telephone directory under "Trucks-Industrial"

HYSTER COMPANY

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FACTORIES: Portland, Oregon; Danville, Illinois; Peoria, Illinois; Nijmegen, The Netherlands

• Elk Falls Co. at Duncan Bay, B. C., expects to obtain a large proportion of its logs from woodlot farmers in the area, and MacMillan & Bloedel is building a new woodroom at Harmac, B. C., costing $1,000,000 to handle small logs such as farmers are expected to deliver. The company will offer to pay $13 per cord.

• The Forest Management Advisory Group of the Northwest Hardwood Association will make its first report at the association's next quarterly meeting, to be held in Seattle, January 19. Chairman Norman Worthington and nine other professional foresters from federal, state and private organizations are canvassing and assembling all available data on the forestry aspects of hardwoods in the region, specifically alder.

• Stockholders of the International Paper Co. and the Long-Bell Lumber Co., have approved the merger of the two firms. The new corporation plans to build a 400 ton daily capacity pulp and paper mill in the Northwest at a site not yet announced.

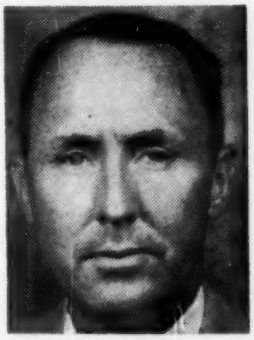
• Carl Carlson, formerly manager of the Tygh Valley Lumber Co., Tygh Valley, Ore., is now at LaGrande, Ore., where he is assistant to general manager Gale Beals of the Mt. Emily Lumber Co.

• W. C. Cole, Georgia-Pacific Corp.'s general traffic manager, has been elected executive secretary to the National Association of Shipper's Advisory Boards.

• W. W. Locke has succeeded J. R. Frum as supervisor of the Crown Zellerbach Corp.'s Northwest land and tax department. Mr. Frum has retired.

Late Forest Industries News

• Walter M. Leuthold, Deer Park, Wash., who is one of the leading lumbermen in the Inland Empire and who has extensive forestry industry interests in Interior British Columbia, attended the recent annual session of the Timber Committee of the Economic Commission for Europe at Geneva, Switzerland.



• Richard C. Allen, Chief Forester with A. DeWeese Lumber Co., Philadelphia, Miss., has been elected president of the Mississippi Forestry Association. During the past year, Allen served the Association as vice-president in charge of operations. Other officers elected for the coming year are Vice-Presidents James R. Clark, Crosby; D. L. Fair, Jr., Louisville; W. W. May, Jackson; and Secretary-Treasurer R. T. Perry, of Brookhaven.

• A. W. Greeley, former U. S. Forest Service regional forester of Alaska, has assumed his new job as regional forester of the North Central Region, with headquarters at Milwaukee, Wis.

• Hillman Leuddemann, vice-president and general manager of the Lumber Division of Pope & Talbot, Inc., San Francisco, has been made a company director.

What Happens When:

An Outsider Looks at Lumber ?

THE ANSWER TO THAT ONE is that he sees a lot of things that lumbermen themselves often tend to overlook and he presents a fresh viewpoint.

Such was the case Nov. 2 when Robert E. Pflaumer, president of the American Marietta Co., Chicago, addressed a noon meeting of several hundred persons attending the Washington State Forestry Conference in Seattle, meeting jointly with the Chamber of Commerce.

As is the case with everyone in chemical industry today, Mr. Pflaumer is research-minded and he scarcely took the emphasis off this word during his entire address. He said that the chemical industry is currently spending 24 times as much on research as does the lumber industry.

In regard to how lumber will be sold in the future, he said the lumber industry will have to adopt the philosophy that it is supplying an end product rather than a raw material to some other industry. He said that lumber people must expand their thinking to change from supplying lumber to supplying a product already cut in modular building units or prepared in prefabricated units. He predicted that the use of plastics, aluminum and mineral products would be greatly expanded in the pre-fab building field—at the expense of wood.

TWO PREXIES SHAKE. Pres. ROBERT E. PFLAUMER (L) of the American Marietta Co. is greeted by Dean GORDON MARCKWORTH, president of the Washington State Forestry Conference. Mr. Pflaumer's remarks on the topic "An Industry at the Turning Point" were a highlight of the day-long forestry meeting Nov. 2 in Seattle.

He further pointed out that such changes in competitive product specification would tend to disrupt the normal pattern of merchandising, distribution and production.

Research for better wood utilization will be expanded by his own company, he said, when American-Marietta builds additional research and manufacturing facilities in the northwest sometime within the next few years. He stated, "The chemical industry will play an important part in the future growth of the lumber industry."

Another major point before an audience made up predominantly of foresters seemed to be that timber supply *per se* was a minor problem and that there are many other forces in action today which will influence the future of the forest products industries.

LOGS 33% FASTER

Since he switched to GM Detroit Diesel Power

Lumber company owner, Rudy Hegewald, replaced this log loader's gasoline engine with a General Motors Detroit Diesel in April, 1955. Now he loads an extra 10,000 board feet per day on 40% less fuel. And Rudy reports he's getting smoother power, trouble-free service, better response to sudden loads and easier starts with his GM Detroit Diesel.

Want savings like this in your equipment? Switch your present units to GM Detroit Diesel power—and specify this hard-working 2-cycle Diesel when you buy new equipment. It's available in over 1,000 different applications of power machinery. Single engines, 30 to 300 H.P.; multiple units up to 893 H.P.

Details? Call your local GM Detroit Diesel distributor or dealer or write direct.

GM DIESEL POWER

DETROIT DIESEL

Engine Division of General Motors
Detroit 28, Michigan

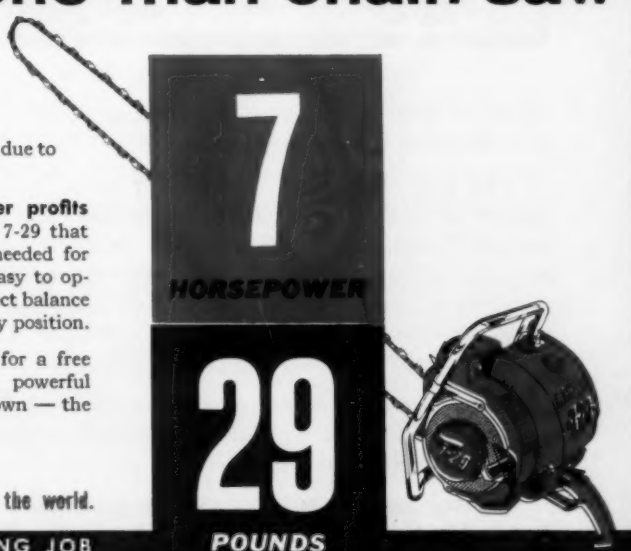
REGIONAL OFFICES: New York, Atlanta, Detroit, Chicago, Dallas, San Francisco

Factory Engineered Parts—
Factory Trained Servicemen everywhere

A GM "4-71" Detroit Diesel powers this Thew Lorain Log Loader owned by Hegewald Lumber Co., Stevenson, Washington

Less Down Time Lower Maintenance

The most powerful one-man chain saw you can own



You get more of the features you want in the Homelite 7-29:

Less down time because the famous Homelite precision design features high-compression, short-stroke engine which prolongs life, cuts gas consumption, starts quickly in any weather.

Lower maintenance with a belt drive that eliminates stretch, never requires adjustment or lubrication; built-in governor keeps engine at proper speeds, stops excessive wear and greatly prolongs life of the saw by reducing vibration, eliminating damage due to engine racing.

More production, greater profits with this powerful Homelite 7-29 that does every kind of cutting needed for high-production operation. Easy to operate, easy to handle, the perfect balance makes every type of cut in any position.

See your Homelite dealer for a free demonstration of the most powerful one-man chain saw you can own — the Homelite 7-29.

Homelite builds and sells more chain saws than any other company in the world.

COMPLETE LINE OF CHAIN SAWS FOR EVERY CUTTING JOB

Model 17 — an all-purpose saw that brings down trees up to 4 feet in diameter. Available with special brush cutting and clearing attachments for complete versatility. 3½ horsepower, 20 pounds.

Model 5-20 — All the versatility of the 17 with added power. 5 full horsepower — 20 pounds. Brings down trees up to 6 feet in diameter.

Model EZ — lightest, most powerful direct drive chain saw ever developed. Only 19 pounds, full 5 horsepower. Brings down trees up to 3 feet in diameter.

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A DIVISION OF TEXTRON INC.

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Manufacturers of

carryable pumps • generators • chain saws • blowers.

There's a difference in parts quality. And there's a whale of a difference in parts *service*, too.

At your Caterpillar Dealer your order is checked against up-to-the-minute parts catalogs and other *strictly current* references. You're always sure the parts delivered are the *right* parts—they fit and function properly. But while your Caterpillar Dealer naturally excels in emergency service, your needs are mostly routine; and his routine service is quick, accurate and complete, too.

When you need a part, why take a chance? Call on your Caterpillar Dealer. Get CAT* original parts—and SERVICE—every time.

Caterpillar Tractor Co., San Francisco, Calif.;
Peoria, Ill., U. S. A.

Your Caterpillar Dealer's parts staff is carefully selected, carefully trained under direct factory supervision. Training is continuous and thorough. The service you get is *expert* service—*Caterpillar service.*

CATERPILLAR*

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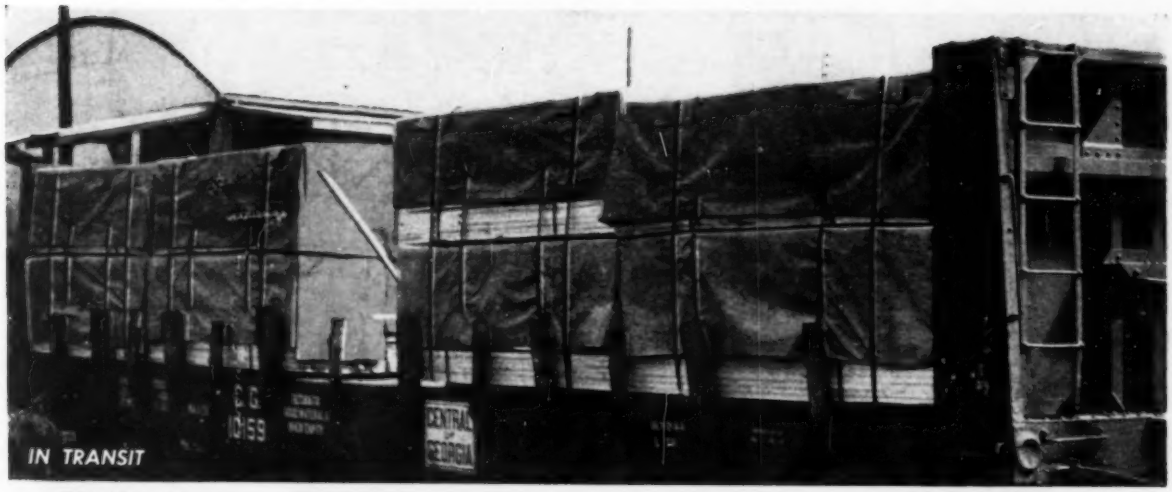
brush cutting and clearing attachments for complete versatility. 3½ horsepower, 20 pounds.

down trees up to 6 feet in diameter.

up to 3 feet in diameter.



Ship Packaged Lumber

Save Material Handling Costs... Storage Costs — for Your Customers

Yes, the mill that cuts its customer's costs is in a favored position. You are regarded as a supplier with the dealer's interest at heart — and abreast of modern developments when you ship your lumber on open cars — protected with FIBREEN! And remember . . . shipping on flat cars means tremendous savings in loading *and* unloading . . . packaging with FIBREEN protects the product from dirt and weather from your mill to the customer's door.

Write us today for your copy of our booklet "How to Protect Lumber with Waterproof Paper for Shipment and Storage".

Prefabricated lumber covers as well as standard roll widths are available for packaging lumber.

FIBREEN

INDUSTRIAL PACKAGING PAPER

Waterproof

Airtight

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Please send name of nearest Fibreen jobber ☐
Please send samples and booklet on packaging ☐

Name.....

Company.....

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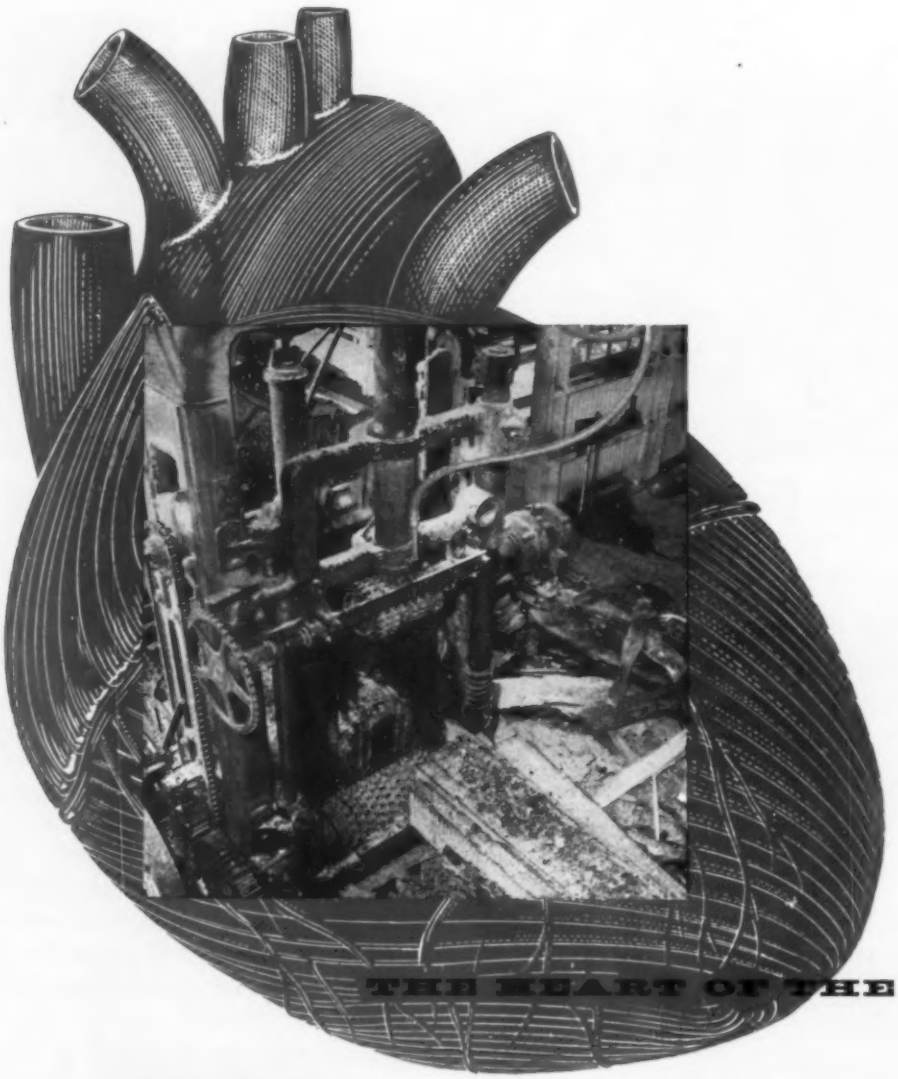
City.....*Zone*....*State*.....



THE HEART OF THE MILL!

Van Vleet mill foreman
Dave Rice

That's the way Dave Rice, mill foreman at Van Vleet Lumber Products, Inc., Arcata, Calif., describes the Swedish gang saw which turns out some 65,000 board feet of lumber per eight-hour shift.

Guide blocks in the Swedish gang must withstand great pressure, heat and shock loads as the saw cuts huge logs into as many as 12 cants. "For the past seven years we've relied on General Petroleum's Viscolite Oil Extra Heavy to protect our gang saw...we know what it can do, and we just can't afford down-time," says Rice.

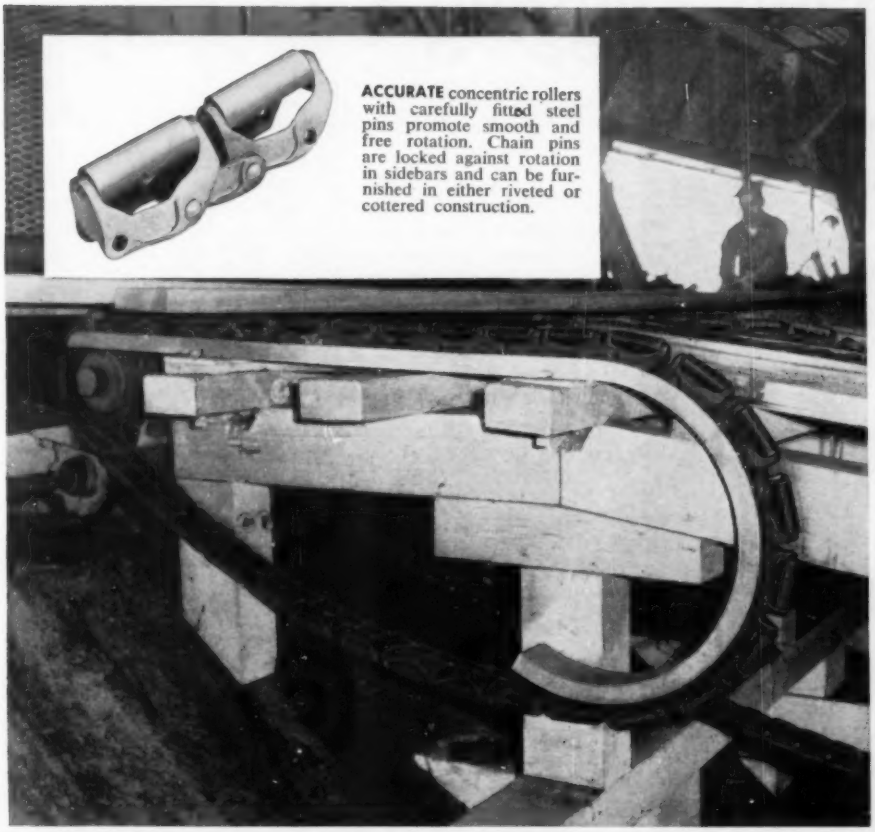
Like so many other leading lumber mills, you'll find it pays to do business with G.P. Top-rated products and the lube engineering know-how that goes with them—they're yours when you deal with General Petroleum. Prove it for yourself...call your nearest G.P. office today.

SOCONY MOBIL

GENERAL PETROLEUM CORPORATION

2-1049

Boards roll off easily on Link-Belt roller-top chain



ACCURATE concentric rollers with carefully fitted steel pins promote smooth and free rotation. Chain pins are locked against rotation in sidebars and can be furnished in either riveted or cottered construction.

Simplifies, speeds sorting of various sized planks, boards

Narrow boards and wide planks roll off easily and one-at-a-time when Link-Belt roller-top chain is used for the handling and sorting of lumber. This is another example of Link-Belt's ability to provide the one chain best suited for a specific operation.

Faster handling

Free-turning rollers, mounted parallel to conveyor travel, provide ample surface for fast, orderly handling of boards at any point along the line. Their smooth, free-rolling action minimizes manual effort . . . reduces fatigue.

Quality-made parts

Sturdy, concentric rollers are accurately shell-molded and mounted on cold-finished pins to assure free-turning action under load. This not only makes removal of boards easier but also reduces wear on chain parts.

Chain body is made of malleable iron and is generously proportioned for maximum strength under heavy loads. Broad base provides stability and adequate support of loads. Wide bottom wearing surfaces increase chain life and minimize maintenance.

Link-Belt roller-top chain boosts production, conserves manpower

LINK-BELT ROLLER-TOP CHAIN is the low-cost answer to fast, efficient handling and sorting of lumber in modern mills.

ROLLERS CARRY BOARDS in orderly manner, prevent piling up, permit easy withdrawal of boards at any point.

FREE-TURNING ROLLERS are made of shell-molded malleable iron . . . reduce physical effort in handling boards.

LOW MAINTENANCE is assured by generously proportioned body of chain and broad, long-lasting wearing surfaces.

The above illustrations show how cost-conscious lumber mills use Link-Belt roller-top chain to increase sorting table production. In addition to faster, easier handling of boards and planks, roller-top chain conveyors improve working conditions. For an analysis of your sorting operation needs—without obligation—call your nearby Link-Belt office.

HEADQUARTERS FOR CHAINS, SPROCKETS is your nearby Link-Belt factory branch store or authorized stock-carrying distributor. Write for 342-page Catalog 950.

LINK-BELT

CHAINS AND SPROCKETS

LINK-BELT COMPANY: Plants, Sales Offices and Factory Branch Stores at San Francisco 24, Los Angeles 33, Seattle 4. Sales Offices and Factory Branch Stores at Portland 9, Spokane 10, Oakland 7, Salt Lake City 1. Stock Carrying Distributors in Principal Areas. 14,270

D9 slashes road building costs ⅓ for Fetscher Logging Company

Working on contract in the Powell District of Lolo National Forest, Idaho, the Fetscher Logging Company uses this Turbocharged CAT* D9 Tractor with No. 9A Bulldozer to pioneer roads for loaders and logging trucks. No advance clearing is done. Pushing over trees in its way, the giant D9 slugs through snow, boulders and mud. A D8 finishes the road behind it. On an average, in going like this, the pair builds about half a mile an eight-hour day.

"The D9 has dropped our road building costs 30 to 35 per cent," says owner A. W. Fetscher, Missoula, Montana. "It has the power to clear the right-of-way and clean the granite boulders out where normally we'd be blasting or misusing a less powerful tractor to get them out. We like the high lift of the 'dozer blade for pushing over trees."

That's typical of reports from the woods about the D9. Road building or skidding, this giant is setting new production records!

More power for even tougher jobs

As powerful as the D9 was when introduced last year, it now packs even more power. Its drawbar capacity has been increased from 230 HP to 260 HP — its flywheel capacity from 286 HP to 320 HP. Yet with all this power and 29-ton heft, its hydraulic boosters make it easy to operate. It's easy to service, too. And, to match your needs, it's available with torque converter or direct drive with oil clutch.

For bigger production at lower cost, there's no tractor built that can match the D9. A strong statement — but one backed by performance records from job after job after job. Ask your Caterpillar Dealer to show them to you. Name the date and he'll demonstrate on your job!

Caterpillar Tractor Co., San Francisco, Calif.; Peoria, Ill., U.S.A.

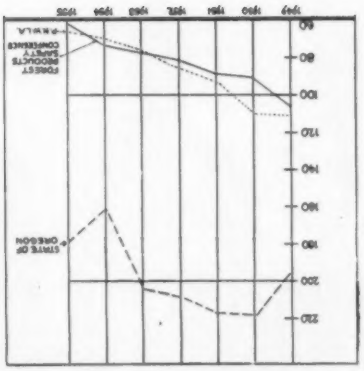
CATERPILLAR*

*Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.

BOOST PRODUCTION AND CUT COSTS WITH THE D9

Pushing over trees and pioneering through mud, boulders and snow up to five feet deep, this D9 sets new production records for the Fetscher Logging Company. Other Caterpillar equipment in the company's line-up includes three D8s, two D7s, one No. 12 Motor Grader and three D318 Engines in heel boom loaders.

Safety Engineering



GRAPH SHOWS relationship of frequency rate (State of Oregon) compared to Pacific Northwest Loggers Assoc. (Ore. and Wash.) and Forest Products Safety Conference (Ore., Wash., B.C.). Graph by Robert P. Miller, Forest Industries Safety Committee.

ED H. CROSBY, Columbia Basin Loggers, received Award of Merit at safety dinner.

IN MID-OCTOBER, the green veneer plant of Oregon-Washington Plywood Company, Brookings, Oregon division, proudly displayed this 581 day accident-free sign to Co. employees.

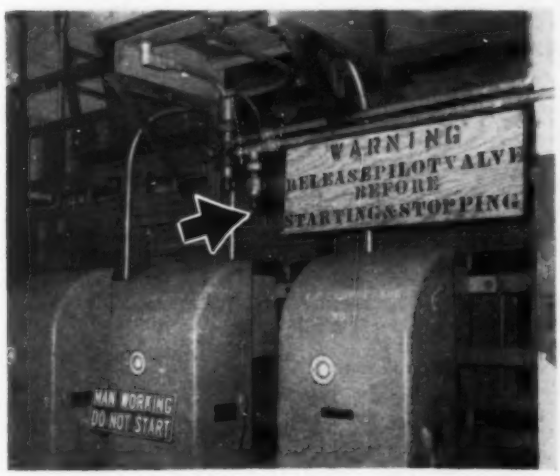
Boss Logger Receives Merit Award

HIGHLIGHTS OF THE ANNUAL safety dinner sponsored by the Pacific Northwest Loggers Association for the Columbia River area, held on Oct. 19 in Portland, Ore., was the presentation of an Award of Merit from the Oregon Industrial Accident Commission to Ed H. Crosby, mgr. of Columbia Basin Loggers, Portland.

The award, made by Commission Chairman Wm. A. Callahan, was for "outstanding effort and achievement in the interest of safety". The citation recognized Mr. Crosby's role in helping plan a state-wide safety training course for small logging operators (see Oct. issue THE LUMBERMAN). Some 440 employees and 210 supervisors have been contacted as a result of this program. Crosby gave a summary report on the training program.

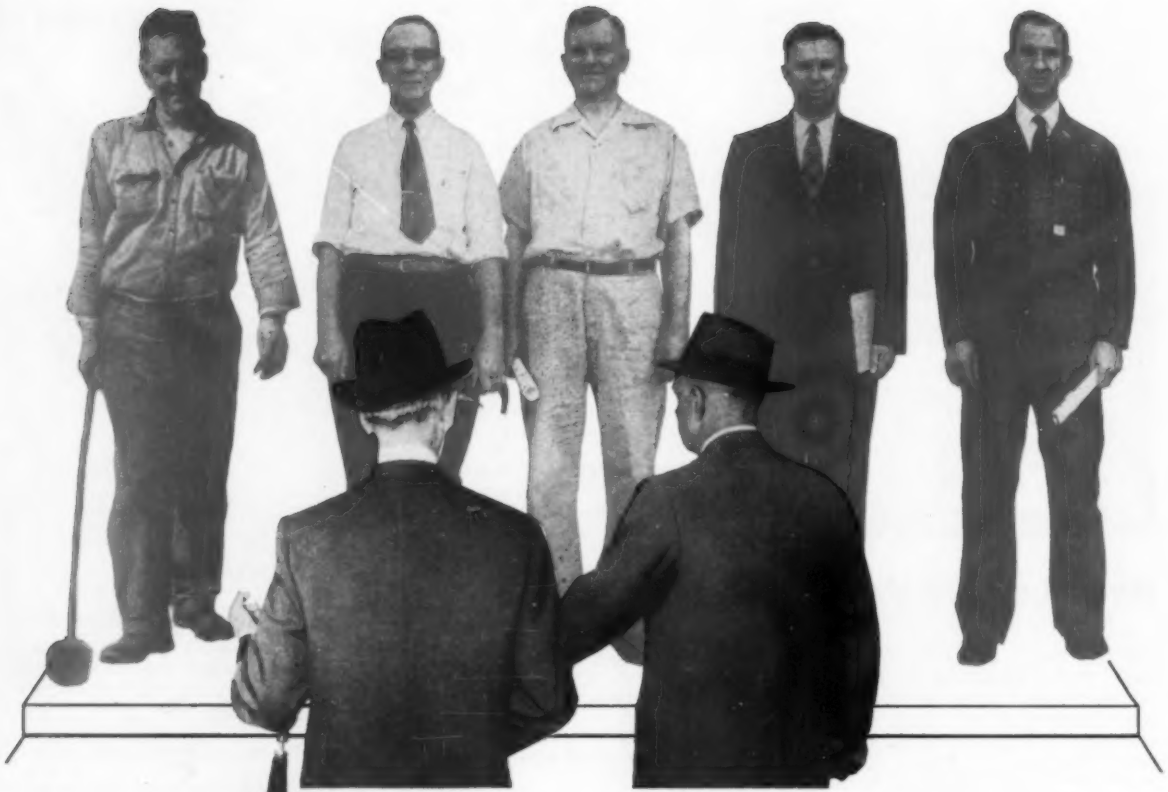
Panel discussion of accident problems, led by John A. Wahl, Weyerhaeuser Timber Co., chairman of the Logger's Safety Committee, brought these conclusions:

- A short 8 to 10 hour course in first aid should be combined with safety training.
- Have large companies place more emphasis on working with their contractors in safety.
- Investigate the "almost" accidents. *Ask* the State to come into the operation, find out *what* is being done on safety and *how*.
- Relate safety to management's pocketbook, the cost of doing business.
- Submit frequency records monthly with the logging cost and production report.
- Post each supervisor's safety record monthly, so crews can study it.
- Hold more on-the-job meetings.
- Work more with truck drivers at log dumps, who get careless in loosening binders prematurely and cause most logging accidents.
- Recognize the accident-prone "old timer" problem. Sometimes he requires a "get tough" attitude.
- Make a complete report on every accident promptly by a crew safety committee. Find out what caused it.
- Safety programs are effective only if top management really *wants* them. They must be sold right down the line.



SAFETY IS GIVEN complete attention at Southcoast Lumber Co., at Brookings, Ore. In left photo, pilot valve shut-off for bank of 3 Gardner-Denver air compressors, to prevent injury while working near compressors. Metal sign "Man Working, Do Not Start" (white letters, red background) is placed on motor control whenever any machine is worked on. Bottom photo, electrical panel controls in basement of sawmill have rubber-mat covered raised wooden platform for inspection safety. Floor slopes for better drainage.

D7s, one No. 12 Motor Grader and three D318 Engines in reel boom loaders.



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(and we hope you do)

...you'd see skilled craftsmen like these—men who are helping produce top-quality Wickwire Rope, Slings and Strand. You'd find:

the **MELTER,** who compounds the steel with the sharp eye of an expert

the **DIE MAKER,** who prepares the dies needed to produce the right wire

the **CLOSER OPERATOR,** who skillfully fabricates the wire rope

the **METALLURGIST,** who certifies that the wire has the proper physical and chemical properties

the **SALES ENGINEER,** who's always ready to help you

and ***many others*** like them who are constantly working to keep Wickwire in its position of leadership in the production of top-quality products.

They're all good reasons why your Wickwire Distributor knows he's got top-quality wire rope, slings and strand to sell... and that these products will serve you well.

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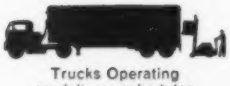
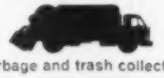
* Transmission



Trucks Operating on delivery schedules

Coaches making frequent stops



Garbage and trash collection

Concrete mixers and similar industrial applications

Materials handling machinery

Many stationary power plants and oil field applications

CLARK EQUIPMENT

Now comes more profitable performance for the operators of stop-and-go vehicles—trucks, both highway and off-the-highway, garbage and trash collectors, concrete mixers, materials handling machines and others: smoother, more economical handling made possible by Clark's new TransVerter.

- **No heavy clutching—reduces driver fatigue. Easy control of hydraulic clutch by shift lever button, floor button, or light pressure clutch pedal**
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Get the interesting story of these advantages whose economies far offset the moderate additional cost. Send for bulletin.

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How "D Handyman"

saves time, cuts costs on your scattered maintenance

One man, with dozer-equipped D Tournapull, can do many jobs to speed your production and cut costs. For example, "D Handyman" will: 1. build and maintain access roads; 2. level land for camp sites; 3. cut ditches and fill over culverts; 4. clean landings; 5. fill mud holes; 6. construct bridge approaches; 7. haul supplies... handle dozens of other scattered maintenance jobs.

Here are just a few "reasons *why*"...

Self-loads or push-loads

On small jobs the "D" easily self-loads up to 5 pay-yards in most scraper dirt... for larger jobs "D" can be push-loaded to 7½ yards in less than a minute.

Hauls are made at high speeds... on long hauls, output is usually double or triple that of crawlers. Spreading and grading is fast, yet controlled to within 1 inch, eliminating need for special equipment to handle finish-grading.

"D" travels anywhere

Big rubber tires give "D's" the advantage of going anywhere... at speeds to 29.5 miles per hour. "D" travels under its own power, needs no trailer, no planking, to cross blacktop or tracks. Low-pressure pneumatic tires do not damage paved surfaces. Fuel-oil supply, or other needed construction materials, can be carried easily in bowl, easily loaded and unloaded at ground level!

Works year 'round

Behind the 2-wheel "D" prime-mover you can interchange scraper for logging arch, rear-dump hauler, flatbed, or lift-and-carry crane. Dozer or "V" snow-plow can be mounted in front. Electric generator can power tools or lights for emergency use. With these optional tools, your equipment investment is held down to a minimum and its flexibility keeps earning dividends all the year 'round.

Ask about the maximum capacity — 9 yds. heaped — D Tournapull, now available. This improved rig has 8′ width and permissable axle-load. "D" requires no special road permit.

D Tournapull's extreme maneuverability makes working in cramped quarters, on narrow roads, in rough underfooting faster and easier.

D Tournapull-Scraper interchanges with logging arch for high-speed skidding duties.

Tournapull—Trademark Reg. U.S. Pat. Off. DP-992-G-bw

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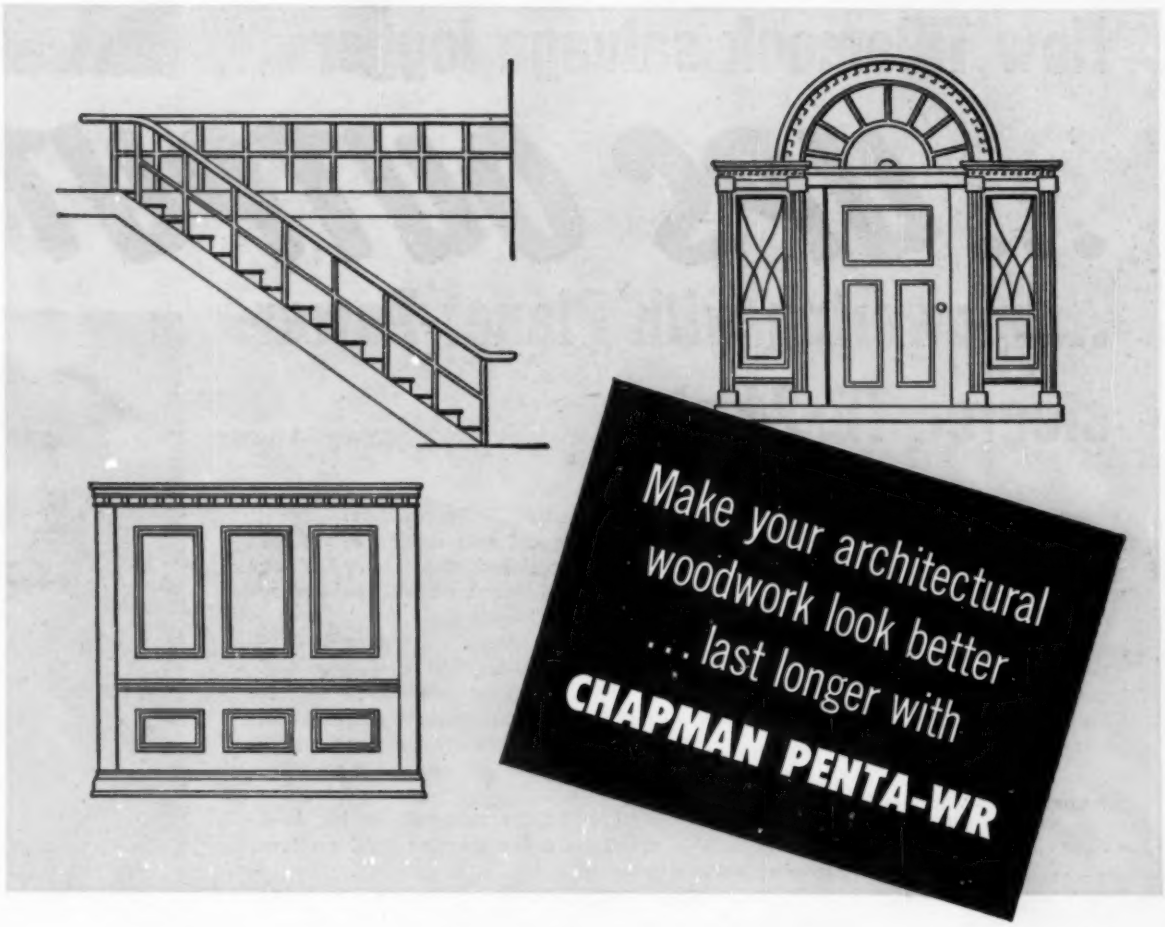
ARBA See you at the ROAD SHOW • Chicago • January 28-February 2, 1957



Inexpensive water-repellent preservative treatment adds to value and appearance

The fine craftsmanship of your specialty millwork deserves to be preserved And nothing preserves and protects as well as PENTA-WR. This improved water-repellent preservative gives maximum lifetime resistance to damage by rot, insect attack, stain, mold, mildew, swelling and shrinking.

Easy to apply and non-sludging, PENTA-WR protects without staining. It keeps wood bright, clean and new-looking longer, and improves adherence of any finish. PENTA-WR treatment is inexpensive, yet it adds much to the value of your products.

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Please send data on treating millwork with PENTA-WR.

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How Tillamook salvage logger

...UPS OUTPUT

..repowering with Planet-Power-steered TD-24's!

Most of the easy logging has been done—most of the best timber taken out—on the 6,000-acre Tillamook burn area that Richard Schmitz, Tillamook, Oregon, is relogging.

Yet, despite the large amount of road-building and snag-cutting required—and the tree-farming operations to do—*the Schmitz "show" is logging one million feet of Douglas fir per month!*

Repowers—*production doubles!*

Here's how Dick Schmitz, himself, tells what's happened since repowering with International TD-24 crawlers:

"All we did was double our output when we replaced other power with our first TD-24 last year! We were averaging 4 truck loads daily—never over 5. The TD-24 jumped this to 8 every day—often to 10, using the same crew.

"Even breaking production records, the TD-24 is our easiest-operating tractor ever. Planet-Power steering with full-time live power on both tracks simplifies the work.

"The TD-24 can pull as big loads uphill as other tractors haul on level ground!"

It's no fluke, no accident, no exception for an International TD-24 crawler to beat anything else on tracks by amazing margins!

Believe your eyes—watch TD-24's at work, and compare. Believe your ears—brother loggers will talk (even brag!). Believe your finger-tips—prove exclusive Planet-Power steering and other *big* TD-24 advantages to yourself. See your nearby International Construction Equipment Distributor for a Demonstration.

The new Carco winch-equipped Torque-Converter TD-24 owned by Richard Schmitz approaches a landing skidding a 6,500 bf load. "The first TD-24 with 900 hours of tough mountain logging behind it hasn't had repair of any kind," reports Mr. Schmitz. "Our new TD-24 with torque drive is even better to operate—it's smoother, handles bigger loads."

"You can't compare road-building by TD-24 with any other equipment," declares Mr. Schmitz. "Place the track next to the slope into low range speed, and the TD-24 practically builds the road without much operator attention." Here his TD-24's are roughing out a new haul road.

INTERNATIONAL HARVESTER

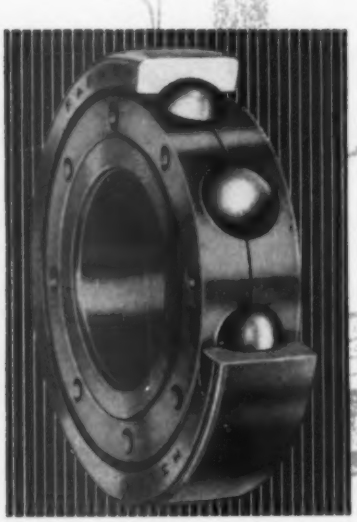
INTERNATIONAL Construction Equipment

International Harvester Company, 180 N. Michigan Avenue, Chicago 1, Illinois

COMPLETE POWER PACKAGE INCLUDING: Crawler, Wheel, and Pipe-Boom Tractors . . . Self-Propelled Scrapers and Bottom-Dumps . . . Crawler and Rubber-Tired Loaders . . . Off-Highway Trucks . . . Diesel and Carbureted Engines . . . Motor Trucks

GUARDIANS OF PRECISION

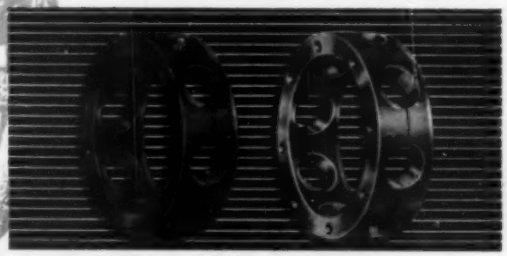
on high-speed woodworking machinery



On routers, shapers, moulders — planers, matchers, edgers, saws, and the like, Fafnir special precision ball bearings support fast-turning shafts — free from end play and chatter, for long periods of time. As a result, the woodworking industry is getting higher production of quality work with low maintenance costs from its modern, high-speed, precision machinery.

BEARING DESIGN. The Fafnir M300 Series Ball Bearings are designed specifically for woodworking machines. They are manufactured to special precision (ABEC-3) tolerances which, when combined with the correct internal clearances established by Fafnir plus the recommended shaft, housing, and shoulder diameters, assure chatter-free performance and quality production. The M300 Series is designed for heavy duty.

BEARING RETAINERS. The M300 Series Ball Bearings has two types of precision-manufactured retainers — a composition retainer for high speeds and relatively lighter loads, and a machined bronze retainer to withstand heavy loads, vibration, and shock.



Composition Retainer *Bronze Retainer*

FAFNIR
BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

COMPLETE DETAILS including dimensions, load ratings, recommended shaft and housing diameters are available in Bulletin 436. Send for a copy. The Fafnir Bearing Company, New Britain, Connecticut.

"You bet there's a difference in wire rope"

. . . from a conversation with Herb Bell, Foreman, Roseburg Lumber Co., Oregon

Q—Herb, does it make a difference what brand of logging ropes you use?

A—You bet it does. A man can't work in the woods long without noticing differences in wire ropes. If you want an example, just ask the guys who set chokers . . . they'll tell you how some brands are kinky and hard to handle.

Q—What about haulbacks and mainlines?

A—One big difference we notice is some ropes spool badly. That really cuts short the life of running lines.

Q—It sounds then like loggers do make a quality distinction between wire ropes . . . some are good, some bad, some in-between. How does Tiger Brand stack up?

A—Well, I can tell you this, the Tiger Brand chokers we're using have just the right balance of strength and flexibility. They're plenty strong and not too stiff, which means faster setting and more turns per hour. And as far as Tiger Brand Mainline and Haulbacks are concerned, their record here speaks for itself.

That Record: 12 million board feet in seven months . . . and still going strong! A lot of this work has been over bluffs and steep, rocky sides.

USS TIGER BRAND Wire Rope

United States Steel Corporation • Columbia-Geneva Steel Division
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UNITED STATES STEEL

Another FIRST

OZAN LUMBER COMPANY
MANUFACTURERS
YELLOW PINE LUMBER
PRESCOTT, ARKANSAS

October 25, 1955

S. A. Woods Machine Company
27 Damrell St.
Boston 27, Mass.

Gentlemen:

After six months of continuous operation in our planing mill at Prescott, Arkansas, milling various grades and patterns of Arkansas Soft Pine on the new WOODS A-480M Angular Head Matcher, the performance of this machine has been most satisfactory.

Just a few of the accomplishments of this machine have been - elimination of sniped ends - smoother finish around knots and cross grain - less power consumption in feeding of stock - the possibility of improving the lower grades and upping some. It is our belief that less power is consumed in planing because of the angular or shearing cut on the cylinders.

Less lead is required in the guide as angle cutterhead serves to hold stock against the guide fence. This should tend to reduce friction as well as wear on the feed rolls. Also because of the angle of the bed plates, stock 5" and wider is continuously supported before and after the cutting on the bottom head.

We think this is a very fine machine and the new principles applied are of real value in the advanced design.

Yours very truly,

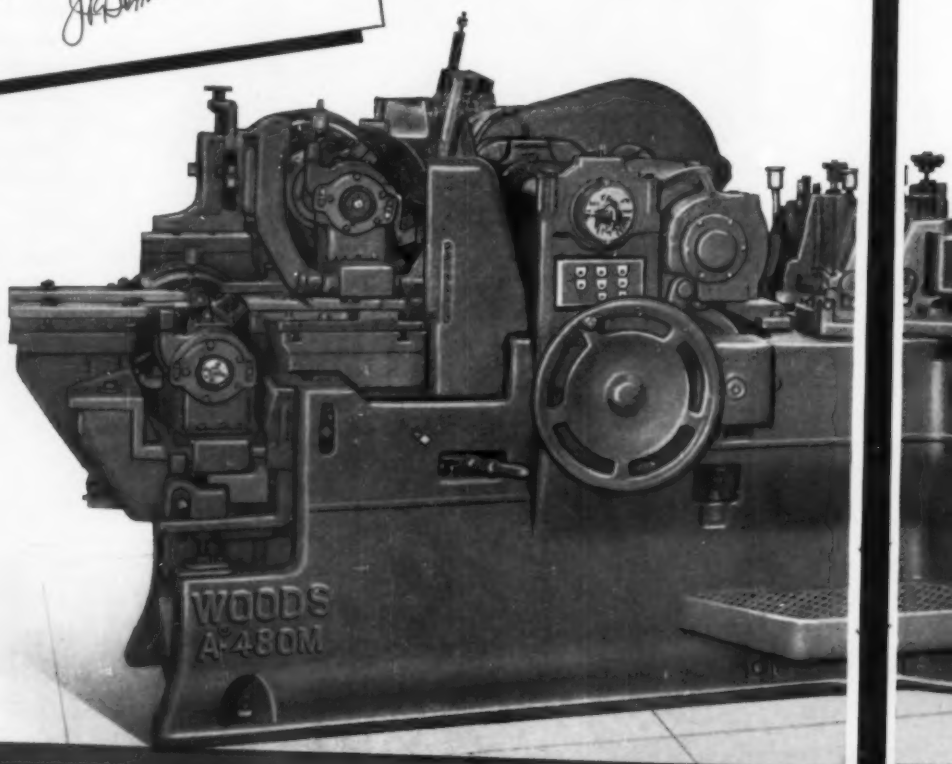
OZAN LUMBER COMPANY

JRBemis:ve

DIAGON PLANE

PATENTED

PREVENTS . . . . .



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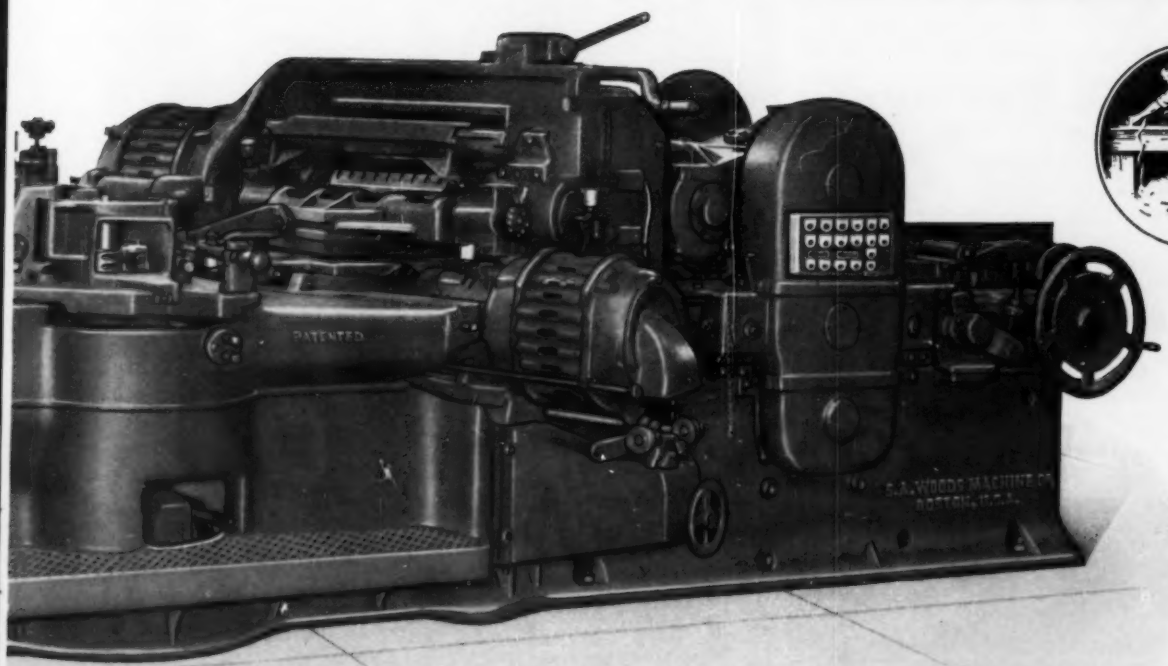
- ✓ END-SNIPING
- ✓ TORN GRAIN
- ✓ LOOSENING of KNOTS



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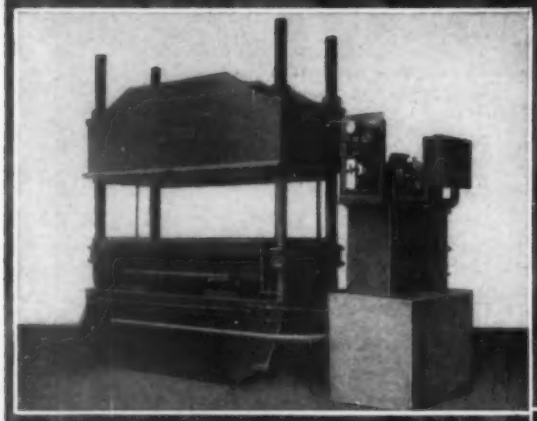
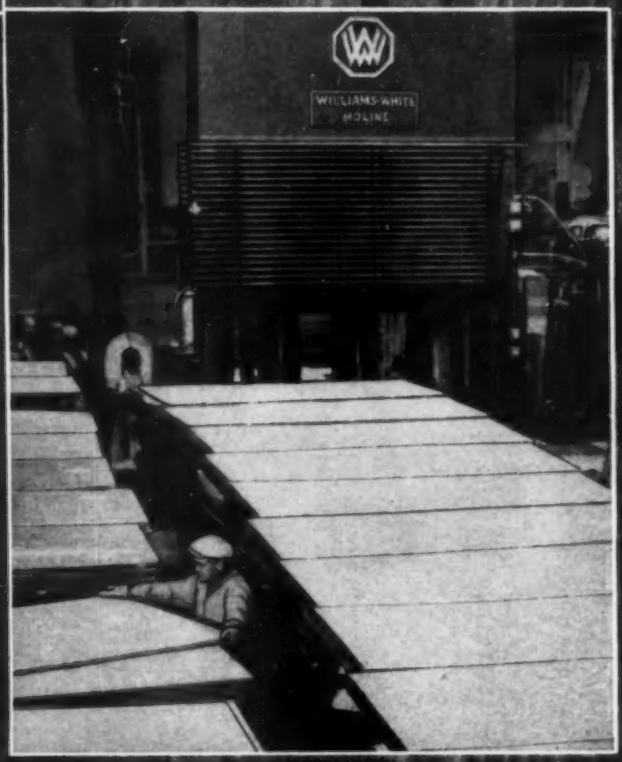
WILLIAMS-WHITE HOT or COLD
Laboratory Production PRESSES



If your company is expanding or if you are "new comers" in the plywood, veneer or hardboard field, consider WILLIAMS-WHITE & CO. custom built hot or cold presses before you buy! Built to your exact requirements, WILLIAMS-WHITE presses represent the peak of up-to-date design and craftsmanship.

Your specifications as to capacity, plate size, number of openings, types of controls, etc., are built into each WILLIAMS-WHITE hot or cold press. They are available in column or A-frame construction, with steam, fluid or electrically heated plates.



Above is illustrated a WILLIAMS-WHITE 250 Ton Hot Plate Press with platens 96" x 48" and adjustable daylight openings of 24", 30", 36" and 48". Equipped with automatic pushbutton control.

The press illustrated at right is a 20- opening plywood press, capacity 1485 Tons, with platens 106" x 56", in use in a plant in the Pacific Northwest.

REPRESENTATIVES:

ALLIED NORTHWEST MACH. TOOL CORP.
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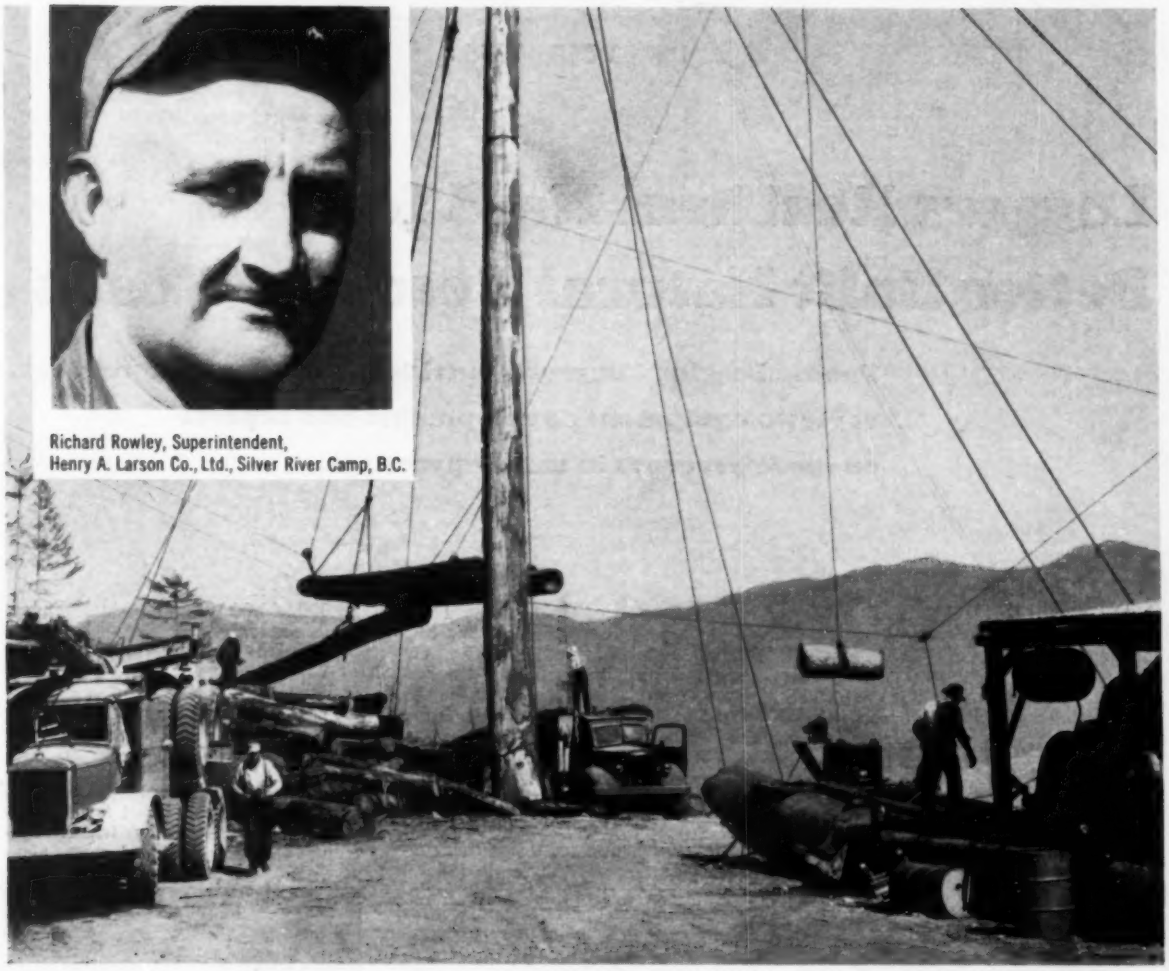
"T5X...we're sold on it 100%"

Richard Rowley, Superintendent,
Henry A. Larson Co., Ltd., Silver River Camp, B.C.



"T5X motor oil has made a great name for itself on this show. We use it in all of our equipment — trucks, tractors and yarders — and we're sold on it 100%.

"We have one Skagit BU110 powered with a 200-h.p. Waukesha that has been in constant service on T5X since 1951 without a minute of downtime. We change oil every two weeks but it still doesn't require one drop between changes. The record is substantially the same on our five other diesel yarders. The operators wouldn't hear of having anything but T5X put in the engines, nor would Pat Collins, our master mechanic.

"Recently our 'Cat Doctor' tore down one of our D-8's after five years of steady service, 10 hours a day. Neither liners, rings nor bearings required replacement and the engine was absolutely free of carbon, sludge and varnish... thanks to T5X."

T5X *has* made a great name for itself among loggers from Alaska to Latin America. That's because this *amazing* purple oil is engineered to satisfy the requirements of modern high-speed equipment, no matter how tough the show. Try T5X yourself and be convinced.

UNION OIL COMPANY 76
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VOLUME 83

THE Lumberman

NUMBER 13

DECEMBER, 1956

Loggers Reaffirm Need for Better Built Natural Resource Roads

Pacific Logging Congress considers social responsibilities, reviews equipment developments and reports on more progress in safety practices.

NATURAL RESOURCE ROADS, trends in safety progress, new ideas and concepts in forestry and logging, and manufacturing and equipment advancements were highlights of the 47th Pacific Logging Congress, held in San Francisco, Calif., Nov. 12 to 14. Congress Pres. Herbert W. McMahan, Ralph L. Smith Lbr. Co., Anderson, Calif., presided over the sessions, attended by over 1,000 leaders of the forest products industries from the western states and British Columbia. Program theme was "The Logger — the Forest — And You".

EDITOR'S NOTE: Space limitations and deadline requirements restricted THE LUMBERMAN'S coverage of The Pacific Logging Congress to the highlights presented here. Additional material will be contained in the January 1957 issue.

PRESIDES AT SAN FRANCISCO

HERBERT W. McMAHAN, transportation superintendent for the Ralph L. Smith Lumber Co., Anderson, California, is the retiring president of the Pacific Logging Congress.

In his keynote address, Pres. Herbert W. McMahan told loggers that the fine utilization record of the lumber industry is not the result of laws or governmental regulation. It is instead, he said, the result of endless research by private industry management, endless driving to produce a better product by better methods with less waste.

McMahan detailed the history of lumber from pre-Colonial days. Since the early 20th century, the history of logging and forest management has been one of steady progress. New methods and machines have reduced waste, expanded use for lower grades of lumber, made it profitable to utilize more of the tree and to take out former non-merchantable trees and develop use for forest resources not suitable for lumber as pulp and paper.

As long as the industry remains free and competitive, it will continue to foster such programs as the nation's tree farm program which now covers more than 39 million acres. McMahan noted that 750,000 people are employed in the industry which pours $5,000,000,000 annually into the nation's economy.

A LOG TRUCK FORUM, moderated by Robert Neils, J. Neils Lbr. Co., Libby, Montana, reviewed torque converter transmissions and exhaust braking.

Gray Evans, Hammond Lbr. Co., Samoa, Calif., stated that torque converters on off-highway trucks contribute to driver ease and prolong en-

NEWLY ELECTED PRESIDENT

L. THOMAS MURRAY, JR., West Fork Timber Co., Tacoma, Washington, has served as vice president for the past year. His father was PLC president in '22-'23.

gine life. Hammond made its first conversion in 1951, since then has purchased four trucks equipped with twin disk torque converters. The trucks show up best on severe adverse grades, particularly one with many fluctuations in percent of grade. A third more life is obtained on engines between engine overhauls on the 300 hp. engines in the torque converter trucks than with the same engines in a direct drive truck. Less shifting insures less gear train damage.

Disadvantages cited by Evans: Higher initial cost, higher fuel consumption. Torque converter equipped trucks consume about 10 per cent more fuel. Maintenance and repair costs of the torque compared with standard transmissions are about on a par. Tire life seems to be about the same.

PROBLEMS ENCOUNTERED BY B. C. Forest Products, Ltd., Vancouver, B. C., in using torque converters were reported by A. N. MacKenzie, logging superintendent. The company first converted two separate operations on Vancouver Island to torque converter trucks in the spring of 1954.

One operation has a haul of approximately 22 miles, and the second approximately 25 miles, with grades running from 8 percent adverse to 22 percent favorable on branch roads and 4 percent adverse and 12 percent favorable on main roads.

Trucks selected for the final haul were equipped with 12-foot hinge type high stake bunks that would haul loads from 12 to 16,000 bd. feet. The first truck purchase consisted of three Kenworths, equipped with 300 hp. Cummins engines, Twin Disc torque converters, 5-speed Fuller transmissions, 4600 wide track Timken tandem drive rear axles and Shuler 18,000 lb. front axle. Later, eight Hayes trucks were purchased with the same specifications, with the exception of the transmission, which was a 4-speed unit.

Problems originally present, but since overcome, included trouble with the converter supply system, an abnormal amount of bearing failure in the supply pump and sticking thermostats. The torque converter itself has not given much trouble, with the exception of two free-wheel units and also seal failures both in the converter and converter controls. One problem still remains: the short operating period before overhauls on the 4-speed transmissions. No checks are available yet as to prolongation in life of engine and rear end. There is no noticeable difference in tire wear. Fuel costs are approximately 12 percent greater.

MacKenzie recommended among improvements in torque converters, a more efficient hydraulic retarder and a full power shift transmission using a minimum of five speeds with close spaced gear changes.

MacKenzie also reported on exhaust braking being used on several logging trucks. All are performing satisfactorily. Trucks operate more safely on steep hills and brake lining life is more than doubled. The exhaust brake performs best when the truck is on steep grades and the engine rpm is close to governed speed.

Program Planners

These are some of the men who planned the 47th Pacific Logging Congress features:

ENTERTAINMENT: *Chairman, JACK E. DONOVAN, Mack Truck Co.; TOM FAHEY, Caterpillar Tractor Co.; SIG SKIMAN, Allis-Chalmers Mfg. Co.; S. J. FARREL, International Harvester Co.; FRANK HART, Standard Oil Co.; NICHOLAS BUCHANAN, General Petroleum Co.*

PUBLICITY: *California Redwood Association; Chairman, BEN S. ALLEN.*

PROGRAM CHAIRMAN: *HERBERT W. McMAHAN.*

PLANS FOR COOPERATIVE action between the National Society of Automotive Engineers and the Pacific Logging Congress to improve the design, operation and maintenance of logging equipment were announced by Robert Olin, Potlatch Forest, Inc., Lewiston, Idaho.

Olin, who has served as temporary chairman of the Congress' automotive study committee, organized in October, 1955, at Victoria, B. C., gave details of the type of action that will be undertaken.

"We plan to transmit automotive equipment problems and developments of the logging industry to manufacturers through technical papers presented on SAE programs. Secondly, we will select pertinent SAE papers of interest to loggers, brief them, and present them as references to Pacific Logging Congress members," said Olin.

Olin listed these as typical problems requiring solution: plugged radiators, which might be remedied by reversible pitch radiator fans; use of fan disconnects on trucks for cold weather; better air cleaning equipment; more study of tire designs and construction to meet logging conditions; more information on proper lubricants for engines; a study of gas-turbine truck power. Olin described the motion picture, "Timber on Wheels", prepared by the logging industry and presented at the 1956 SAE national West Coast meeting. Next year's SAE meeting, to be held in Seattle, Wash., in August will have logging problems on its program.

Olin gave credit to Mr. Chuck Lewis, lubricants engineer, Standard Oil Co. of Calif., for the idea of setting up an automotive study committee.

REPORTING ON RADIO, Olin stated that if all VHF television stations are abandoned and replaced by UHF, a possibility developing as a result of joint congressional committee and FCC study, the logging industry will also face problems in channel reassignment of its valuable short-wave radio system.

This shake-up in TV and mobile radio is not in the near offing, but appears probable. Olin predicted that when it does happen, mobile radio in the 40 to 60 mc bands will be moved to the higher abandoned TV channels. This means shifting the forest products 49 mc channel. He expects the 49 mc frequency to be taken over eventually by the military because the "forward scatter" type of signal propagation on this band extends communications several hundred to a thousand miles instead of the normal 40 to 50-mile range.

In his report for the Forest Industries Radio Communications Committee, Olin also stated that 60 new forest products radio systems were processed last year. Interference on TV and radio by high-frequency gluding machines is being handled by better design of this equipment to prevent radiation. FIRC has suggested licensing one individual in every plant to be responsible for the daily operation of electronic equipment.

"Talkie-tooters" were banned by FCC earlier this year, said Olin. It appears that the low power industrial channel will be allocated to the Forest Products Radio Service on a secondary basis specifically for tone operated signalling devices, such as the "talkie-tooter".

By October 31, 1963, all users of 150 mc radio bands must have equipment which will conform to FCC's newly adopted split channel rules. Channel widths on all mobile frequencies between 150 mc and 460 mc have been reduced to one-half their former width, effective Nov. 1. Newly created intermediate channels were not granted to present users; they will be assigned by formal allocation by FCC.

ON THE MICROWAVE FRONT, Olin stated that 50 systems have been processed since he assumed chairmanship of the Microwave Council last March. Excluding common car-

(*Continued on page* 102)

NEW OFFICERS FOR 1957

President: L. Thomas Murray, Jr., West Fork Timber Co., Tacoma, Wash.
Vice Pres.: Nils Hult, Hult Lumber Co., Junction City, Ore.
Treasurer: Robert Dwyer, Dwyer Lumber Co., Portland, Ore. (Re-elected.)
Secretary: Carwin Woolley, Portland, Ore. (Re-elected.)

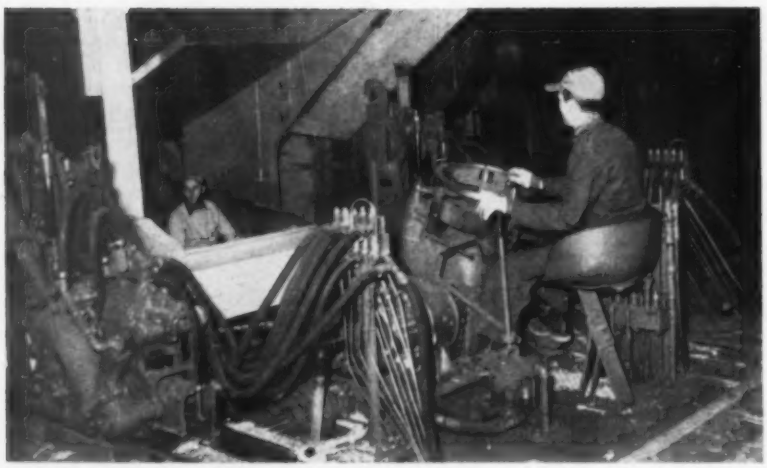
1957 MEETING

Next year's Pacific Logging Congress will be held Oct. 30 and 31 and Nov. 1 in Seattle, Wash., in conjunction with a logging machinery show.

ON THE BANKS of the Kootenai river at Troy, J. Neils Lumber Co. has just completed this large new sawmill. Log haul is at left, with sawmill behind it. Large center building is sorting and loading shed. Diagonal structure in middle is refuse conveyor

How A Montana Mill Plans To Reduce Maintenance and Repairs

At Troy, Montana, J. Neils Lumber Co. has completed a new sawmill which is engineered for less down time and lower production costs.



STEAM SHOTGUN CARRIAGE has Eimco air motor; it powers setworks, dogs, cant flippers. Headrig: Filer & Stowell 9 ft. band; saw: 12 gauge 16" wide, teeth set 2" apart. Headrig's 250 hp. G.E. motor, through rubber V-belts, can be dynamically braked to a stop in 1-1/3 min.

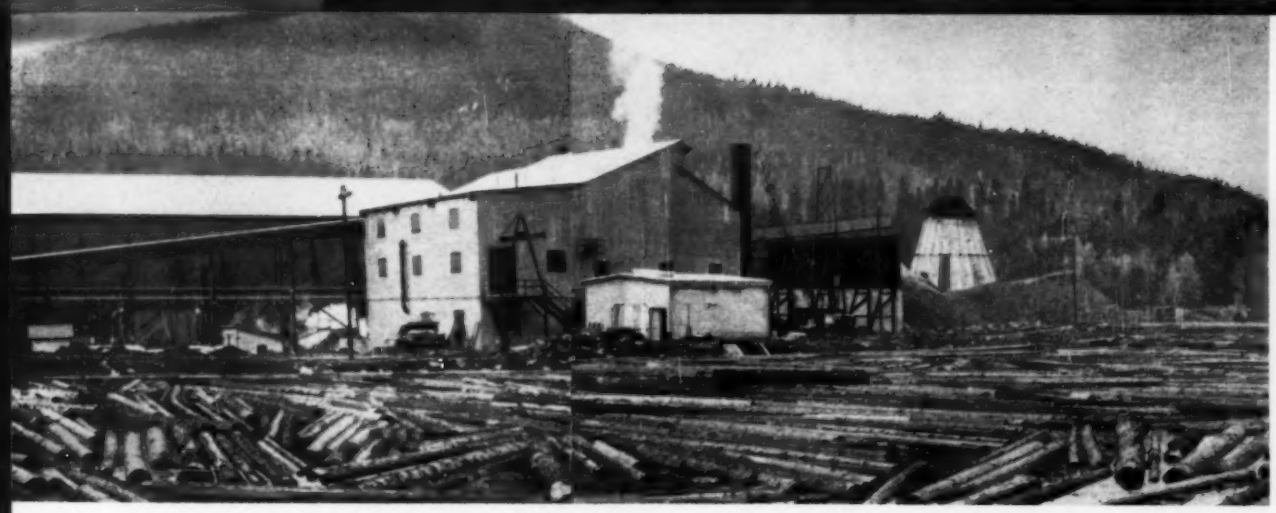
WITH A FIRM BELIEF that it can be maintained in first-class operating condition with less down time and at the lowest possible cost per thousand board feet of any sawmill anywhere, J. Neils Lumber Co. has begun full production at its brand new sawmill at Troy, Montana.

Design, construction and operation of this outstanding manufacturing plant are all aimed at maximum control over the zooming costs of maintenance and repairs. J. Neils achieved simple and economical "built-in" maintenance and housekeeping (see how on opposite page).

What would impress a sawmill man?

- First, the physical layout and production machines which allow maximum recovery of the higher grades of lumber. (See accompanying lumber flow diagram.)
- Secondly, that the company went to

BIG LOG DECKS were ready for start-up of Troy mill in mid-fall. Logs are decked on peninsulas jutting into pond, increasing storage capacity. Crane feeds logs into pond as needed. Sprinkler pipes are on all piles, now an accepted practice in pine region.



from mill to power house, right. Burner, far right, is being dismantled; it served previous mill. Mill has capacity of 75M board feet per shift, can handle lumber up to 26 ft. Mill's design is aimed at reducing maintenance costs and down time.

considerable effort and expense to see that operation and maintenance of the mill will be at a bare minimum per M. Manpower requirements are quite conservative. It can readily be kept clean and well-policed throughout, since there are few, if any "nooks and crannies" where dirt, bark, sawdust and grease and grime will be allowed to accumulate.

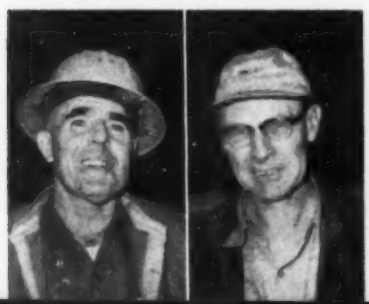
Here are some mill highlights:

PLENTY OF LIGHT . . . Extensive use is made of mercury vapor color-corrected lighting instead of incandescent or fluorescent fixtures. Comparatively, these lights are of fairly recent origin. The 400 watt lamps in the sawmill operate on 277 volts. These "mercuries" impart a very soft light, not too different from diffused sunlight. This relieves workers of much of the fatigue and eyestrain attributable to poor lighting conditions. It also makes for greater safety in the plant, because objects, moving or stationary, can be discerned much more readily. Lamps in ordinarily dirty locations are protected by a shatterproof lens to reduce cleaning labor and maintain reflector efficiency.

The well-planned lighting system is matched with the attractive and very practical color scheme throughout the mill. All interior walls, ceiling and structural members as well as the steel refuse conveyors and chutes are painted a pleasing and restful light green. The green painted on the metal was American-Marietta's "Valdura," which provides a suitable protective

(*Continued on page* 40)

LOG SUPPLY for mill, mostly Douglas fir and larch, is responsibility of Bob Russell, left, logging supt. Sawmill is under supervision of Bob Jenkins, right, who ran old mill.



How Does J. Neils Plan to Reduce Maintenance?

- **By taking full advantage of recent advances in electrical equipment and lighting.**
- **By specifying "heavy duty" on all machinery, related equipment and structural members.**
- **By locating motors, machines and conveyors where they can be easily serviced or repaired.**
- **By providing a spacious and uncluttered full concrete ground floor.**

Highlights of This Newest Big Mill in the Pine Region

Everyone who has visited or worked on the new J. Neils Lumber Co. sawmill at Troy, Mont., has been impressed with it. The company has spent time and money to build the most modern lumber manufacturing plant. Comfort and safety of the sawmill workers who will run it has been kept uppermost in mind.

This mill is designed to cut 75M bd. ft. per shift. Maximum length lumber that can be handled effectively through mill is 26 feet. A 30-ft. log can be cut on the headrig (such as for timbers).

Major species sawed are Douglas fir and larch. Separate logging operations in the Troy district will supply most of the needs of the mill. The old planing mill is being retained for the time being. Later on, the company will announce further plans regarding a new planing mill. About three-quarters of the lumber will be shipped on flat cars 15 miles to the company's large modern dry kilns and planing mill at Libby to be seasoned and surfaced. The remainder, mostly dimension, will be shipped surfaced green.

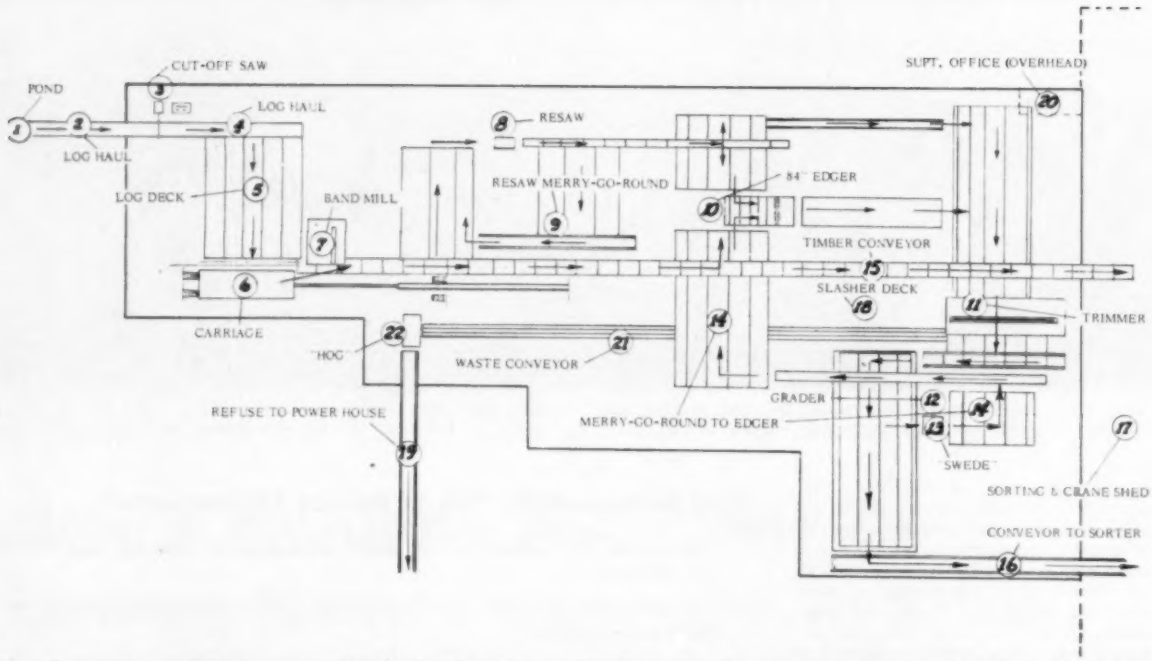
J. Neils Lumber Co., one of the best-known family enterprises in the lumber business, has long been known as a progressive organization, always trying out new ideas, techniques and equipment as well as developing these things on their own.

Two months ago, the St. Regis Paper Co., New York, took an option to acquire control of the Neils company through a stock trade. At press time negotiations were still underway. A large pulp and paper mill near Libby is contemplated as one of the projects which the new parent organization will develop.

Founder of the company was Julius Neils. His sons are actively managing the business, along with a number of the third Neils generation who are associated with the company. There is also a large company logging and sawmill operation at Klickitat, Wash., and a number of Neils sales offices over the country.

The new mill replaces a small, older mill that had been on the same site for many years. It kept running during construction of the new mill. J. Neils built this very substantial, permanent mill because of their abiding faith in the lumber business. Manager Walter Neils told THE LUMBERMAN, "At the rate the U. S. is increasing in population, the demand for houses is going to get greater all the time, and we want to help supply the demand for lumber."

The decision to build anew at Troy rather than expand the already-large Libby operation is that Troy is situated very favorably from the standpoint of timber supply. Principally a dimension mill, it will cut Engelmann spruce, Douglas fir and larch from the Purcell and Cabinet mountain ranges in the extreme northwestern corner of Montana.

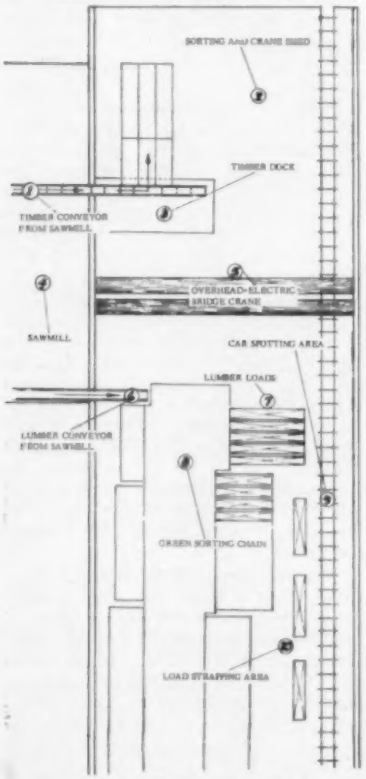


Lumber Flow Diagram. Circled Numbers Designate Successive Steps in Manufacture.

coating as well as a practical easy-to-clean smooth surface.

Here are lighting aspects:

- Lights are up out of the way so that light bounces off everything; there are few shadows. Lights can be up among the girders. Where necessary to hang lights low, glare was eliminated with polished metal mirror-like reflectors.
- Light falls on the face of the log on the carriage and on the face of the trimmer, with over 100 foot-candles of light in both places. There are 30 foot-candles of light on the sorter.
- General even illumination throughout the mill is approximately 20 foot-candles.
- Downstairs on the machinery floor, lighting is reduced to only five foot-candles except around machinery.
- No contrasting light to make sight difficult; hence eyes can readily focus on anything in the mill without delay or trouble.
- In the sorter shed, 1000 watt mercury vapor lamps are used, operating at 480 volts.



Flow for Sorting, Loading.

Using higher voltage lamps makes possible using cheaper, smaller wire and hence more lights per circuit. Voltage is dropped via dry transformers to 120 volts for emergency lighting (incandescent) and for various other lights.

Mercury vapor lights are very efficient; a 400 watt lamp of this type produces approximately the same amount of light as a 1500 watt incandescent light. The life of a mercury lamp is guaranteed for 8000 hours, several times that of the ordinary 2000-hour incandescent.

In case of power outage, an automatic switch turns on the incandescent lights; when power is resumed and the mercury lights go on again, the incandescents stay on for six minutes and are then automatically shut off. The six-minute period is to allow the mercuries to come up to full brilliance. During shutdowns, weekends and the graveyard shift when there is just a skeleton crew, the mercuries are replaced with the incandescents.

Operation of the emergency lighting circuit is insured during off shift periods when only the watchman is on duty. He must insert his key into a switch to energize the automatic circuit so that the incandescents will stay on. He cannot get his keys back to turn in until the emergency circuit is turned on.

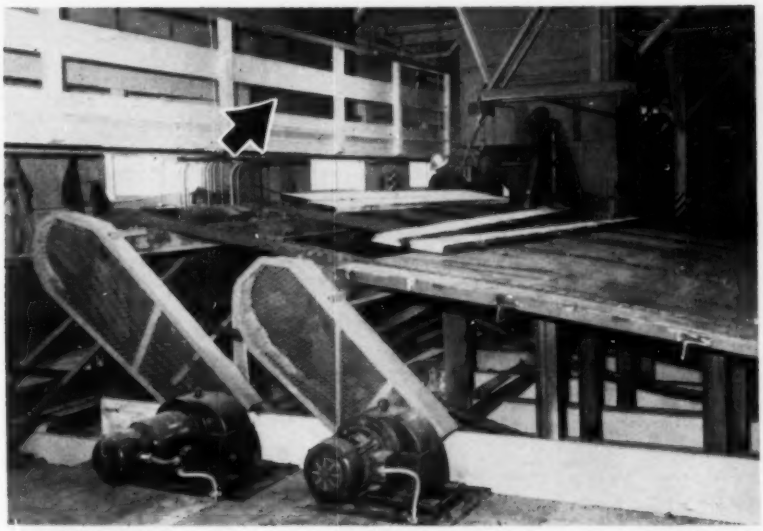
There is a 150 KVA power center for lighting. Here power is brought in at 2300 volts and dropped to 277/480 volts for powering the distribution.

LOG HAUL IS A "FIRST" . . . Believed to be the first such installation in the lumber industry is the torque converter drive on the log haul. This is a Westinghouse unit, consisting of a 60 hp electric motor, torque converter, geared speed reducer and brake. Main advantages are less wear and tear, hence reduced maintenance and repair, on drive chains, sprockets, gears and the motor itself. Also, the motor always hauls at the correct speed to automatically use the full 60 hp; it can not be overloaded.

The second section of the log haul is dynamically braked; it is powered by a Westinghouse 20 hp squirrel cage gearmotor. Brakes and wound rotor motor control maintenance are eliminated.

Motocylinders are important in this mill. These motocylinders by West-

EASY DOES IT! From this push-button panel board by Westinghouse, cut-off sawyer and grader Raymond S. Morkeberg controls torque converter driven log haul, cut-off saw, log stops and log deck ahead of carriage. The sawyer also has control of the log deck.



INSPECTION IS EASY on these Westinghouse gearmotors, which drive chains ahead of resaw (in background). Arrow shows motor control center, protected and easily accessible for service.

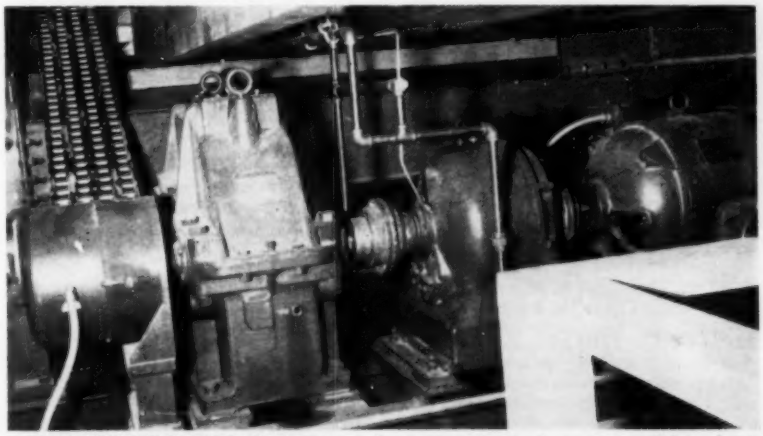
inghouse operate arms and kickers except for heavy-duty requirements, where steam cylinders are employed, such as in log kickers, nigger and deck stop loader. There are individual motocylinders for each measuring stop on the second section log haul. These cylinders are also used for log stops, deck stops, sweeps, jump chains and various gates.

One of these cylinders as used on the log dog is a new development by Fred Horskotte, consulting engineer on this new mill. It employs an extremely long stroke and is believed to be one of the first such applications of an electric motocylinder drive. Main feature here is accuracy of positioning; it is said to eliminate "splitting" of the end of the log during the cut-off operation, thus saving in loss of select timber.

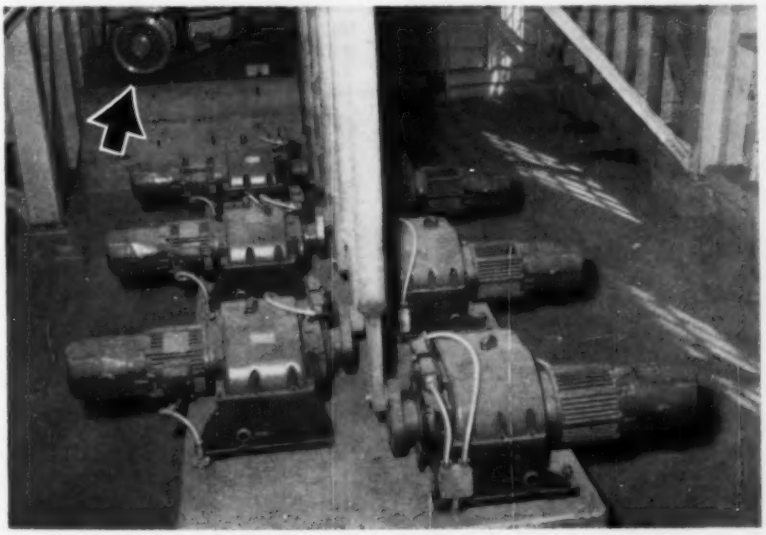
Motocylinders were developed by Mr. Horskotte in conjunction with Westinghouse and J. Neils. Over a decade ago, hundreds of tests were made at the Libby mill of J. Neils before this new cylinder finally evolved.

PHOTOELECTRIC CELLS are used to activate sweeps which kick resawn boards either to the "merry-go-round" at the resaw or to the edger and bypass around the edger. The latter delivers stock directly onto the transfer to the trimmer. The resaw operator has selector switches to control the flow of stock.

Sorting on the green chain is according to species, thickness, length, whether common or select. In 4/4



TORQUE CONVERTER DRIVE (Westinghouse), first section, log haul. L. to rt.: Lifeline electric motor type CSP 60 hp 440 volt, 1770 rmp; W. Schneider torque converter; W. gear drive, pinion speed 1600 rpm, service factor 1.5, service rating, 61; far left, Stearns 440 V magnetic br.



EFFICIENT LOG STOPPERS on second section of log haul are mounted on six Westinghouse 5 hp motocylinders. Each is powered by separate 5 hp 22/440 V electric motor equipped with Stearns magnetic brake. This type cylinder has low maintenance factor. Dog (see arrow) is described in this article.

INSIDE MILL lighting is excellent. Mercury vapor lights are recessed in ceiling; extra light provided around machines. Detailed planning and investment in mercury lighting, with provision for reduced power requirements, will save $6000 per year in lighting, maintenance.

common an additional segregation is made for heart and sap. As packages are built up, they are strapped with a single strand of steel and loaded immediately onto flat cars. Green chain and loading shed are served by a 90-ft. P&H electric bridge crane, riding 40 feet above ground. The shed measures 450 feet in length. Initially lumber storage will be kept to a minimum; however, the crane is high enough to permit its use later for lumber storage.

PLENTY OF POWER . . . The mill's power generating plant produces enough power with its 3000 KW General Electric steam turbine generator to run the sawmill, with some left over for sale to the local utilities. The connected motor load of the sawmill and powerhouse is 2240 hp. The boiler is rated at 850 hp and is capable of producing 72,250 lbs. of steam per hour. The furnace system includes a dry cinder collection system. The cinders and ash are blown back into the ovens. The leftover ash is removed from under the grates with a conveyor and bucket elevator system.

Bark is recovered at the pond end of the log haul and hogged for additional fuel. Plans call for the installation of a screening system which will remove all particles which will not pass through a 22 mesh screen. This will reduce the amount of debris accumulation in the pond and help prevent stream pollution.

There is an outstanding fire protection installation at the site. A separate pumping building is filled with the latest equipment for maximum protection. Water is drawn direct from either of two log ponds and screened through a Link-Belt traveling water screen. This water is used for fire protection purposes as well as a source of supply for the log washer pump and the steam turbine condenser pump.

One electric-driven main pump maintains pressure for the fire water mains; if the pressure should drop, a diesel-driven pump cuts in. The diesel pump automatically tests itself once a week. There is also an electric power by-pass so that if the mill power should fail, local utilities power cuts in to keep the electric pump going.

ELECTRICAL ENGINEERING . . . The mill has four different power centers; in the sawmill proper are two 750 KVA General Electric power centers and one 150 KVA Westinghouse power center. There is another G. E. 750 KVA in the power plant for "station power," such as pumps. At these larger centers, power is delivered at 2300 volts and stepped down to 440.

On the motors up to 200 hp, 440 volts was selected as the most economical. The 250 hp headrig motor is the only motor operating at 2300 volts.

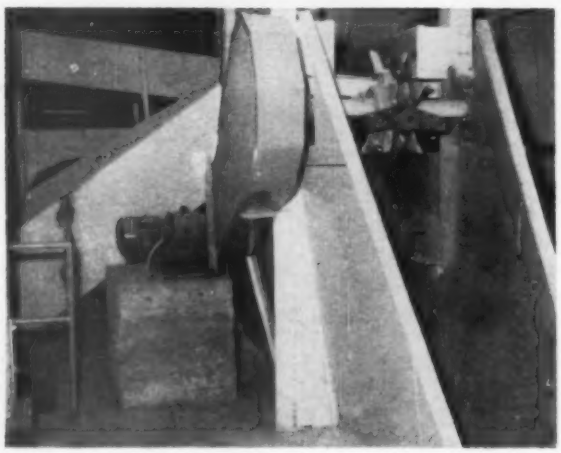
The headrig motor is a G. E. synchronous motor rigged for dynamic braking. It will stop in 80 seconds. Centrifugal force (after the power is shut off) is turned into electrical braking force. This 80 seconds, of course, is a greatly reduced time over the period the saw would keep running with a conventional drive.

WHY MAINTENANCE IS SIMPLER at Troy:

- There are no voids in the conveyor chutes.
- Control stations all have dust-tight controls; no sawdust can get in; thus saving a lot of time on maintenance.
- There are anti-friction bearings on practically all transfer chain drives and conveyor drives. These need to be lubricated only once every few months.
- No overhead power lines; wires come into mill underground.
- Motor control centers for all of the smaller motors are located out of the way of the production machinery. Starters are all in safe places.
- All gearmotors are totally enclosed motors with sealed bearings.

SAFETY AND PROTECTIVE DEVICES . . . All chain drives on the refuse conveyors and transfers are very safely protected with heavy-duty screens. At the bottom ends of the refuse conveyors where they are recessed into the floor, a steel-pipe fence (painted orange) surrounds the pit so no one can fall or stumble into it. Also there is plenty of room to get there with a shovel and broom to clean up the pit.

If a jam-up should occur in the lumber flow, operators at the resaw,



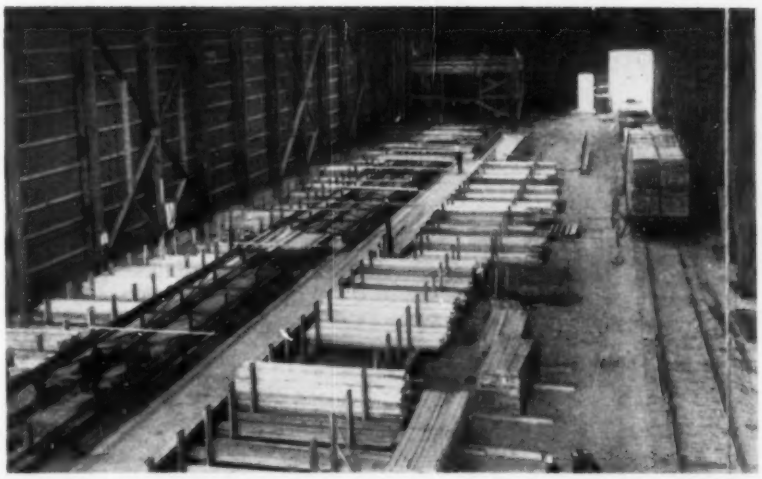
EASILY ACCESSIBLE are gearmotor and conveyor. Refuse conveyor drives are all mounted in Dodge-Timken roller bearing anti-friction pillow blocks, mounted on steel beams. Vibration is reduced to minimum. Motors, drives, controls are placed out-of-way which reduces damage.

edger and trimmer can flash a light at the sawyer's box, as well as to the other stations feeding them.

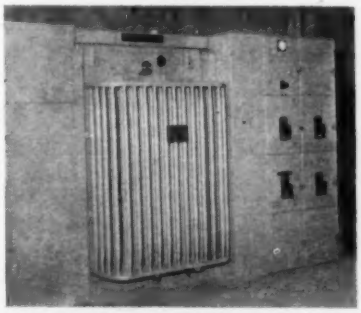
Motor controls for the motors driving the refuse conveyors are interlocked so that if any of the main conveyors stops or is stopped all conveyors feeding into the stopped conveyor also stop. This prevents plug-ups at these critical feed-in points. A red indicating light comes on so it can be easily seen by the man nearest that conveyor. This saves time in locating troubles and provides a chance to get rid of some troublesome piece of slab or edging before it can tie up some other conveyor.

The superintendent's office commands a view of all the mill floor.

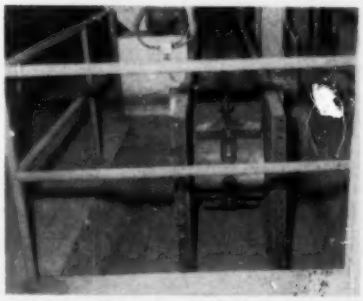
Planning and construction of the Troy mill was under Art Neils, who heads lumber production for the Neils-Libby mill as well. Bob Jenkins is sawmill superintendent. Bob Russell, as logging superintendent for the Troy area, has the responsibility of keeping up the mill's log supply. All these men have many years of experience in their specialties with the Neils organization.



BIRD'S EYE VIEW of green chain and shipping shed shows lumber flow. 16 ft. or shorter lumber is sorted off Moline roll-top chain into bays at left side of green chain; longer stock to right. Packages go to center for strapping, loading; P&H elec. bridge crane loads lumber.



SOMETHING NEW in way of electric power distribution is G.E. power center. Mill has three 750 KVA centers plus one 150 KVA power center (Westing. for lighting only). Power is brought in at 2300 V and dropped to 440 V for distribution to various control centers.



SAFETY RAILING shows planning. Bottom end of refuse conveyor is sunk in ground floor, easy to clean; Filer & Stowell refuse chain.

Major Equipment Suppliers

MAJOR SAWMILL PRODUCTION EQUIPMENT

Westinghouse Electric Corp. worked with J. Neils on development of new torque converter drive on the log haul and supplied all power and drive components for it.
L-M Equipment Co., electric log cut-off chain saw.
Filer & Stowell Co.: 9-ft. double-cutting band headrig; 26 ft. carriage with 54-in. opening blocks, 3 pos. taper setworks, Eimco air motor, air dogs, air can flippers; log deck and transmission equipment; 6-ft. band resaw; 84-in. double edger; 26-ft. air-lift trimmer, Disston saws, each saw with its own S. A. Woods electric motor; slasher for edgings, with R. Hoe saws.
Moore "Swede".
Prineville Machinery Co. edge sorter (next to resaw).
Diamond Iron Works hog.
Hoe - Disston - Simonds saws on headrig.

CONVEYORS & POWER TRANSMISSION

Hewitt-Robins rubber conveyor belts and transmission equipment.
Dodge-Timken pillow blocks.
Moline Malleable chain.
Spokane Machinery Co.: bucket elevator and hoppers.
Chain Belt Co.: rollers and idlers.

ELECTRIC MOTORS & AUXILIARY EQUIPMENT

Louis Allis Co. (modified), used on Motocylinders.
Stearns Magnetic Inc., electric brakes on Motocylinders.
Marathon Electric motor on log cut-off saw.
Gates Super Vulco rubber V-belts on headrig drive.
General Electric Co. furnished larger motors of 50 hp and above for major sawmill machines, including 2300 V, 250 hp synchronous motor for headrig drive, 150 hp motor for hog, 100 hp motor for edger and motors for Moore "Swede", slashers, vertical resaw. G.E. also supplied power centers for sawmill and powerhouse.
Westinghouse Electric gearmotors, multiple unit push-button motor control centers, motocylinders.

POWER PLANT

Garrett & Schafer Engineering Works, Seattle, boiler.
Graver water conditioning unit (R. H. Brown).
General Electric 3000 KW steam turbine generator.
Westinghouse switchgear.
Bailey meters.
Piping: **Grinnell Co.; Consolidated Supply Co.; Spokane Concrete Pipe Co.**

FIRE PROTECTION SYSTEM

Viking sprinklers throughout.
Link-Belt travelling water screen.
Fairbanks-Morse pumping equipment.
Cummins diesel for emergency pump power.
General Electric motors for pumps.

LIGHTING

Westinghouse mercury vapor 277/440 V. lamps.
Westinghouse incandescent 120/208 V. lamps.
Westinghouse fluorescent 277 V. lamps.

OTHER EQUIPMENT

Kaylo Insulation on steam system, Kaylo Div., Owens-Illinois Glass Co.; installed by Fiberglass Insulation Co., Spokane.
P&H bridge crane.
Ross Operating valves on air-lift trimmer.
Vickers directional valves on chain saw assembly.
Nielsen Saw & Supply Co. chain saw grinder.
Armstrong Mfg. Co. equipped filing room.
Hanchett grinder.
Armco Pond Control gates.
ESCO chain.

CONTRACTORS

Fred W. Horskotte, Consulting Sawmill Engineer, Portland, Ore.
Keehne Electric Co., Spokane, Wash.
M. A. Roberts, brick work and piping in power house, Portland, Ore.
Poole, McGonigle & Dick, Portland, Ore., furnished steel and erection.

Montana To Get First Pulp Plant

• The Waldorf Paper Products Co. has announced it will begin construction immediately of a 250-ton Kraft paper pulp mill 11 miles west of Missoula, Montana, on the Clark Fork river. Paul A. Schilling, president, said the pulp mill will be in operation within a year.

Cost of the plant is estimated at more than $6,000,000. It will include a barker and chipper plant, and will be Montana's first pulp mill.

It is estimated that residue materials of various lumber mills in the state which are not utilized at present have a value of $1,500,000 a year in pulp.

The plant is designed to incorporate the latest features for pollution control, removing solids and minimizing chemicals being returned to the river. It also will have devices to capture a large percentage of odors.

LOADING LOGS out at Side 2 with 1¾ yd. Lorain shovel loader powered by D13000 Caterpillar engine.

Smaller Timber Sales Doom Railroad Log Haul

Brooks-Scanlon partially converts to complete truck haul with 15-unit fleet of specially engineered trucks

TRUCKS AND TRAILERS may eliminate entirely the Brooks-Scanlon, Inc. logging railroad at Bend, Ore. Although this is not definite, the time left for continued rail hauling of timber promises to be limited. The organization has been railroad logging since shortly before this country entered World War I. For the past ten years trucks and trailers have been used as feeder units, hauling logs from woods to the rail line to be transferred to logging cars for transport to the mill. But during the first six months of 1956 the company harvested half of a 47 million foot timber sale and hauled all these logs directly to the mill pond with a modern 15-unit truck-trailer fleet.

Except for a limited amount of timber located in the vicinity of the company's railhead in the Sisters area, on which logging resumed in July with a combination rail and feeder truck haul, it appears likely that the rail transport of logs in this area is approaching completion. This does not mean that the Brooks-Scanlon operations are closing down or even tapering off. It means that the organization is modifying production methods to fit changing conditions; a move converting the firm to an adaptable, mobile organization equipped to continue operating under today's conditions which little resemble those when it was established 40 years ago.

Historically the lumber industry in the Bend area was established on railroad logging—the method used by the two largest mills in Central Oregon, the plants of both located in Bend. Brooks-Scanlon is the successor of the two firms, having purchased Shevlin-Hixon when it discontinued production some years ago. Timber tributary to Bend and suited to rail logging has long been in demand. Practically all mature timber growing

"CAT" ARRIVES at landing with 8,000 board feet of logs. This tractor, equipped with Carco winch and arch, has the latest type cab built by Medford Steel Company for operator protection.

BROOKS-SCANLON Logging Supt. Ernie Newsted (L), with Cecil Allison, Log. Foreman.

CUMMINS-POWERED Peterbilt truck pulling Peerless trailer heads for mill with 10,000 bd. ft. logs.

under these conditions has been harvested in this area. Consequently the lands were thusly converted to thrifty young forest stands, a goodly portion of which is included in the 140,000-acre Brooks-Scanlon tree farm.

Federal ownership, both U. S. Forest Service and Bureau of Land Management, also figures in the area's timber resources. As with the private ownership, that timber which could be rail logged was in highest demand. This factor coupled with the fact that subsequent federal sales are expected to be limited to units of around 25 million feet or less leaves rather empty prospects for the future of economical railroad logging. As pointed out by Logging Supt. Ernie Newsted, rail type transport would not be flexible enough to be practical under these conditions.

EVEN THE USFS TIMBER that the company trucklogged this year had previously been passed up as a railroad show even though rail logging has been carried on practically all around this area. The Cinder Cone tract, 40-50 miles southeasterly of Bend, is characterized by extensive outcroppings of rough lava rock in an otherwise pumice formation.

As part of the 47 million foot sale, Brooks-Scanlon contract built 55 miles of type DD forest access road from the edge of Bend to the Cinder Cone tract for transporting the logs to the mill. About the first of this year the company acquired a fleet of 15 Peterbilt trucks, powered by turbo-charged Cummins diesels of 265 hp. capacity, and Peerless trailers.

These trucks-trailer units were ordered with a specifications listing "as long as a pedigree" and, according to Newsted, have in six month's operation proven out to be suited to the job. He points out that the specifications decided on were, to a considerable extent, the result of consulting other successful loggers and adapting their findings to his needs.

Each of the two sides working on the Cinder Cone operation ranged from a daily minimum of around 130M to a maximum of about 200M, the two together generally averaging in the neighborhood of 350M per day. The trucks average approxi-

Woods Personnel

Ernie Newsted, *Logging Superintendent*

Hans C. Milius, *Forester-Logging Engineer*

Al Moore, *Woods Maintenance Superintendent*

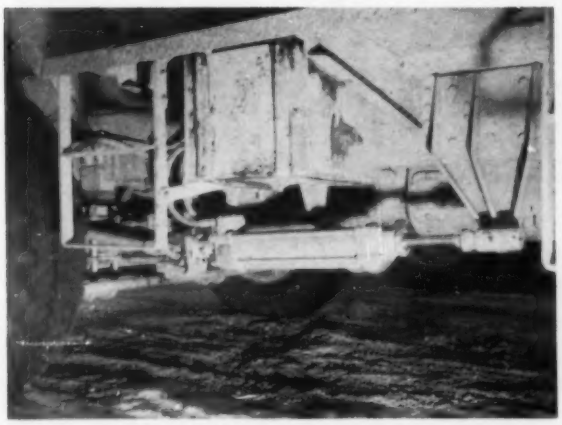
Cecil Allison, *Logging Foreman*

Claude Lundy, *Logging Foreman*

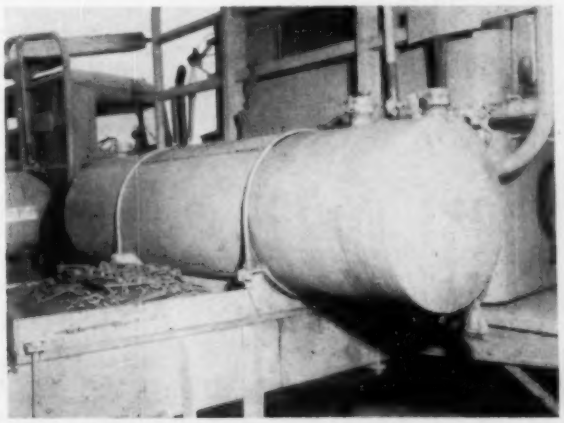
Dave Maudlin, *Bullbuck*

Clarence Boyd, *Road Foreman*

George Conklin, *Road Foreman*



VICKERS HYDRAULIC steering unit, illustrated in photo, is now being used on all the units of the new Brooks-Scanlon truck fleet.



PEERLESS COMPARTMENTED circular tank, behind truck cab, holds 20 gal. of water, 150 gal. of diesel fuel, 6 gal. crankcase oil.

TWO CATERPILLAR 212 road patrols maintain cinder-topped roads.

DECKING LOGS along spur road with bulldozer-equipped D8 "Cat".

mately 9500 bd. ft. per load and make 2½ trips per day on the 45-mile haul.

THE PRODUCTION PLAN followed here is reduced to basic components as a means of keeping operations continuously under control. Every production day Supt. Newsted meets with Logging Foremen Cecil Allison and Claude Lundy before the latter two depart from the truck shop for the woods. At that time they lay specific plans for the day. If any production problems are anticipated at either side, or if the operations will be benefitted by special adaptations the plans are formulated at that time.

Everything here is scheduled and each personnel unit has its own transportation for independently carrying out its part of the program. The falling crew of each side has its respective personnel carrier, as does both loading crews, the skidding crews, the "early starting crew", which gets the woods diesel engines started, and the road patrol crew.

Generally each side operates with about the same basic equipment. The table of organization lists, for each side, seven D8 Caterpillar tractors with Carco winches. These are variously equipped for specific specialty work—the two D8s decking logs at separate landings on each side are equipped with blades as is one tractor per side which constructs skid trails. A side's four D8 skidding tractors may or may not be using Carco arches. Use of the arch depends on current local conditions. Skidding in the rocky Cinder Cone area calls for extensive arch skidding.

General plans call for normal maximum skids of around 800 ft, but in extreme cases they may go out twice this far. Where conditions permit, it's policy to build spur roads at intervals which prevent over-lengthy skidding.

EACH SIDE HAS TWO tractor teams, consisting of two D8s for skidding and one for decking. These teams bring logs to the spur road and deck them there. Subsequently the loading unit—each side has a 1¾ yd. Lorain shovel loader powered by DI3000 "Cat" diesel—goes to work along this spur and loads the decked logs onto truck-trailers for transport to the mill pond.

Crews working "ahead of the trucks"—carrying on the production activities between standing tree and truck — gear their activities quite closely to the rate at which the logs are loaded out. Each side is allowed to have an inventory of no more than two million feet between the loader and standing timber. This includes felled trees and logs, both decked and scattered. This practice contributes to over-all economy of the operation, particularly concerning the amount of investment tied up in decked inventory. The amount of logs to be harvested the following month is estimated and paid for in advance. Adjustments are subsequently made for over or under-payment according to the amount actually received during the period. In addition to the stumpage costs, the amount invested for falling, bucking, skidding and decking of the logs along spur roads must also be figured against the in-storage logs. A running inventory is kept of these logs.

(*Continued on page* 110)

Fleet Specifications

Specifications of Brooks-Scanlon's new log-hauling fleet consisting of 15 Peterbilt trucks and Peerless trailers:

SCHULLER 18,000 lb. centerpoised front axles,

VICKERS hydraulic power steering,

CUMMINS 265 hp. turbo-charged diesel engines with PT fuel system,

BROWN-LIPE 14-in. double-disc clutch,

SPICER 80-51 main transmission box,

SPICER 3-speed 80-31G auxiliary,

TIMKEN double-reduction rear end with 10.16 to 1 ratio,

SANGAMO tachograph,

AEROQUIP couplings throughout—no copper tubing in trucks or trailers;

PEERLESS-built 3-compartment, cylindrical fuel tanks behind cab holding 20 gal. of water, 150 gal. diesel fuel, 6 gal. motor oil. All oil for crankcase enters via this reserve tank which is filled by servicoman. Driver brings oil level up to specifications by operating valve under hood.

6 x 18-in. heated sideview mirror at each side of cab,

BENDIX - WESTINGHOUSE 18 x 7-in. air brakes on 22-in. wheels.

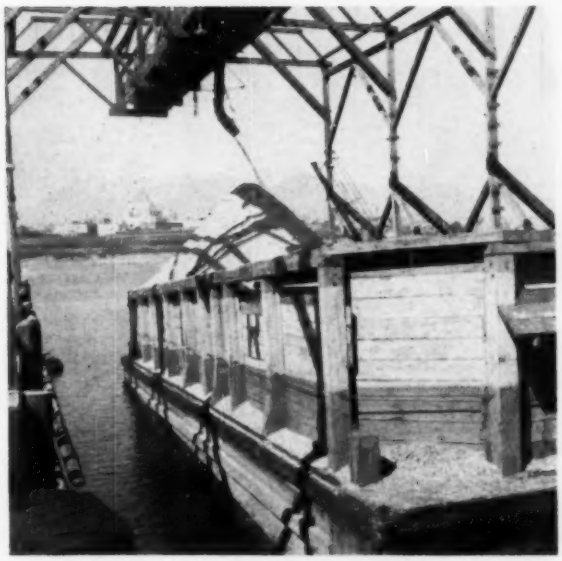
Wheels have 13 3/16-in. diam. bolt circles and full 1-in. studs, 3-piece tractor-type radiators with top, bottom and core sections for stability, 10-ft. bunks using 54-in. stakes with J. I. Morgan trips.

Wheels, wheel bearings, and booster cams of trailers interchangeable with trucks.

PEERLESS TRAILER hauls load of logs from the Brooks-Scanlon mill to their end destination.

LIMBING LOGS with McCulloch model 47 plunge bow saw upon arrival at log landing

CHIPS MOVE OUT to barge on chip conveyor system. Leftovers move along at a steady flow. Two shifts are employed for chipping and loading the chip barge; other shift loads the hog fuel.



BARGE WAITS at the end of the line. Chip barge remains for two shifts and is then moved out to allow the hog fuel barge to take its place and load the hog fuel received from its conveyor system.

Conveyor Link Completes Utilization

FOLLOWING THE TREND to complete utilization of sawmill residuals, B.C. Forest Products at Vancouver, British Columbia, recently retired one of the familiar landmarks on the industrial skyline bordering False Creek in the center of the city. "Old Joe" the refuse burner was pensioned off in favor of marching progress.

The changeover at the Vancouver division followed the pattern set by two other BCPP plants—Victoria and Youbou — both of which installed barkers and demolished their burners.

However, the transition at the Vancouver plant was not as simple as the ones carried out at the other divisions because management felt the expenditure for a mechanical barker was unwarranted at Vancouver. The answer was the purchase of three hand barkers, which were added to the existing three. The new barkers are Sumner Patterned Barkers, manufactured locally. More manpower was hired to man the new barkers on two shifts.

THE PLAN WAS to send as much residuals to the chipper as possible, with the balance being put through the hog. (A pulp mill had agreed to take the hog fuel). The system worked as planned, with a steady flow of leftovers moving to the chipper, and then out to the barge in False Creek.

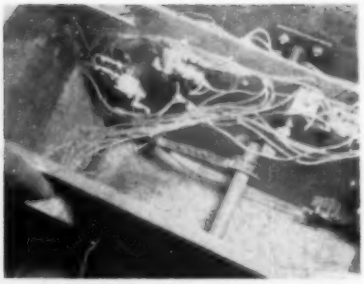
But what wasn't planned was the steady pile of hog fuel accumulating in the yard. Even with the boilers going full blast 24 hours a day, hog fuel continued to pile up. Plant engineers came through with an idea which worked. A short length of conveyor was installed along the sides of the fuel bins. It linked the conveyor which feeds fuel to the boilers with the long conveyor which carries chips out to the barges.

At night, after the chipper plant has finished its two shifts, the chip barge is moved out and the hog barge is moved in. The fuel conveyor system is then set in motion. Two conveyors in the bins move hog fuel onto the boiler feed chain, but instead of going to the power house, it transfers to the new conveyor and is taken up to the feed into the chip conveyor, and so out to the barge in the same manner chips had been travelling minutes before.

Since the new system has gone into effect, chip production has increased five units per day, with the balance of residuals going through the hog for ultimate delivery to the pulp mill. Thus, the addition of three hand barkers, men to man them, a length of conveyor, plus a little ingenuity, has brought the Vancouver division of B.C. Forest Products into the "complete utilization" category along with the many other mills that have followed the trend.

VANCOUVER MILL supt. Harvey Hansen (left) and Fred Hawkins inspect new hog fuel conveyor. This conveyor sloping toward upper right hand corner normally takes fuel from bins to the boiler feed conveyor. Transfer, lower right, opens to allow fuel to fall to new conveyor which dumps onto the chip conveyor system.

BEMON B. KING, left, and T. T. Fridell of Corley Mfg. Co., watch pine cant go through Linck gang saw at King Lumber Co., Forest, Miss. Mr. Fridell was former West Coast mgr. for Corley.



INSIDE VIEW automatic trimmer control box.

Gang Saw Increases Mill Production

Southern company uses gangs on cants and logs, has adjustable trimmer and automatic length sorting

ORIGINALLY BEMON KING'S capitalization was represented by a team of mules which in time became expanded into a small sized "peckerwood" mill, on the well worn side. His father had spent his years in the lumber industry, for many years the major field of employment outside of southern agriculture. He entered the ranks of lumber producers as one based in fundamentals from the ground up.

Ten years ago the King Lumber Company, at Forest, Miss., was represented by a typical "upstairs" circular rig operation, also on the worn side. A two story frame structure housed the office on one side of the ground floor, sharing this level with a one room grocery, and with an apartment upstairs for Bemon and Mrs. King. Married for 30 years, and childless, Mrs. King runs the office, keeps her hand on the grocery operation.

Prior to installation of a Linck gang saw a year ago, the mill produced 25M feet daily. The improvement not only stepped up mill capacity to 40M feet per day but over-run now hits 89 percent, and at times has hit 96 percent. The company buys stumpage, does its own logging and trucking. Some timber is bought in competitive bidding from the (U.S.) Bienville National Forest, which is not distant.

To a great extent—and as much as possible—trucks are unloaded direct to a short inclined ramp leading to a motor driven conveyor chain equipped installation leading up to the log deck. Logs enter the mill sideways instead of end on. Circular headrig is a combination Corley No. 5 and Cunningham. Carriage is fitted with Corley hydraulic log turner and Corley unloader. It carries two men.

TRANSFER TO THE GANG SAW is conventional. The gang saw is fitted with feeding carriage so that it can operate on round logs if it should

END TRIMMING at King Lumber Co. Note push button control board above operator's right shoulder. Nearest saw has automatic set.

BOARDS ARE DROPPED by length according to spacing of conveyor chains shown here. Width drop sorting extends at right of photo.

be necessary to shut down the headrig. Canting of logs includes the taking of inch stock for passage through the edger. All logs with crook are canted for the gang saw with passage through this unit along the curve to produce straight boards. The headrig is driven by an 150 hp. Caterpillar Diesel motor. Other equipment is electric motor driven.

End trimming is done with a two saw arrangement devised and installed by Bemon. One saw is fixed, the other movable, being automatically set to determine lengths by push button control. The movable saw is mounted on a movable frame set on rails. The trimmer operator can grasp the end of a piece with left hand, and with right hand push a button set in a panel. The electrical arrangement brings the saw to 8-foot, 10-foot, etc. spacing by operation of a movable arm within the control box. The push-button circuit activates the arm to the selected spacing connection, which in turn controls the setting length.

From trimmer the boards are carried on a multiple set of conveyor chains providing automatic sorting by length. Two outside chains are set full distance apart for the longest pieces. A third chain is set to carry an 8-foot length, then for a 10-foot, then a 12-foot, then the 14-foot. When the 8-foot board reaches the 10-foot spacing, it drops short and is carried end on to the width drop sorter.

Stacking for the two Moore dry kilns (combined capacity 100M feet) is aided by fixed 2x4 uprights, set to provide perfect alignment of the back edges. The automatic handling makes it possible for three men to stack five thousand feet per hour of green lumber. Kiln stacks are moved by either of two Clark-Ross fork lifts, with a Clark-Ross straddle carrier performing other services. One man (in addition to the three green stackers) watches the separator to prevent hangups, and two men are on the trimmer.

AN AUTOMATIC SORTING direction for 2-inch stock is being installed. This length sorter is above the original installation, with the drop sorter for width extending out in the opposite direction. The two inch stock is to be made on a second Linck gang saw already on order. Additionally the King Lumber Company plans installation of a log debarker.

Marketing of chips has been arranged. It is planned to put all clean trimmings and residues into chips instead of salvaging usable pieces for box factories, etc.

Chips will go to Gaylord Container Div. (Bogalusa, La.) of Crown-Zellerbach Corp. While direct return from salvaged material runs slightly above that of chip yield, an advantage will be gained by eliminating the special operation and its labor force. Short stock production, because of mounting labor costs and demands upon management for supervision, is regarded as dispensable.

The negro mill crew is mostly "old hands" with the company, and is going along in production with what supervision can be spared by Bemon King and his brother "I.R.". Since Bemon directly supervises the mill enlargement, and there's additional time required for timber buying, logging and trucking, sales, etc., it becomes a "tight" operation.

The mill has been running a straight five 8-hour day schedule with no overtime. At the time of LUMBERMAN's visit it was being shifted to a 50-hour week schedule by employing extra hands so that the men work only 40 hours but have time off. If the logging crew loses a day because of rain, it automatically works on Saturday.

On overhead, Bemon says it's hard to get away from that $5.00 per M/feet which he bases conservatively as an all-over average of 30-M per day. If production drops, he states, up goes the overhead rate and out goes the profit margin. That Bemon likes the gangsaw (No. 3864 Gebr Linck, Oberkirch Baden, bought through The Corley Mfg. Co., Chattanooga, Tenn.) is proven by his purchase of another unit.

Confined to one room, and to company employes, the grocery store is not a "commisary". It carries, at locally competitive prices, only those "good brand" items daily used by crew member's families. The "store" is opened an hour on Sunday mornings for their convenience.

Mill Produces Billionth Board Foot of Lumber

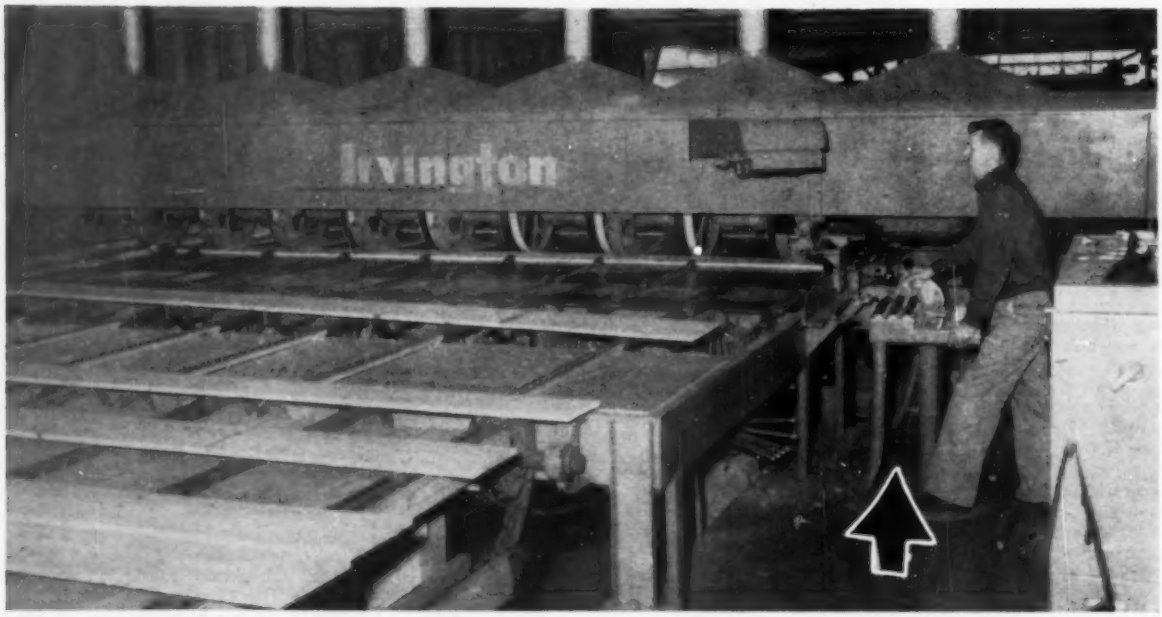
L. E. DUNN, pres., (left) cuts off one billionth board foot for R. E. GALLAGHER.

• On July 27 the New Mexico Timber Co., Albuquerque, New Mexico, shipped its One Billionth board foot of lumber. This milestone in the company's thirty-year history occurred while loading a shipment of 2x10 Douglas fir destined for the Mill Creek Lumber and Supply Co. of Tulsa, Oklahoma.

To commemorate the occasion, Mr. L. E. Dunn, president of Mill Creek Lumber and Supply Co., was presented with a hand-drawn proclamation attesting to his having purchased the One Billionth Foot. So that the company could preserve the actual piece, R. E. Gallagher, Sales Manager, purchased the One Billionth Foot from Mr. Dunn for $100.

Pictured presenting the proclamation to L. E. Dunn are R. E. Gallagher and C. H. Lowery, the Oklahoma representative for New Mexico Timber Co. Mr. Dunn and Mr. Gallagher are shown cutting off the One Billionth Foot for the company's preservation.

PROCLAMATION IS presented to L. E. DUNN (left), Mill Creek Lumber & Supply Co., by R. E. GALLAGHER (center), sales mgr., and C. H. LOWERY, Oklahoma representative of New Mexico Tbr. Co.



SURFACED LUMBER gets complete finishing at PFI, Lewiston, Ida. as it goes through IRVASEC, automatic end conditioning system developed and manufactured by Irvington Machine Wks. Unit is controlled by IRVAC, Irvington's automatic memory control system.

New "Memory" Device Automates Grading

Potlatch Forests, Inc. installs "brain box" system which smooth-end surfaces, end stamps, waxes and delivers board to conveyor chains.

OPERATOR "CALLS SIGNALS" on IRVAC control panel for any process combination by pressing maximum of two keys. G. E. Speed Variator control provides ranges of 0 to 100 boards per min.

A NEW "DIMENSION" in lumber finishing has been achieved by Potlatch Forests, Inc., Lewiston, Idaho, as result of installing IRVASEC* This push-button system "end conditions" conventional "finished" lumber by (1) precision, smooth end surfacing, (2) end printing, (3) waxing and (4) appropriately delivering boards to either of two chain conveyors, each terminating at a stacker. This operation completes the job "in line," whereas the old system required much extra handling.

For the predominant grade and size items of a specific run all of these operations are completely automatic. Pieces with characteristics preventing their inclusion in the dominant end group are automatically processed to their highest utility as result of the operator having depressed just one or two control keys. The resultant processing may be the same as for the on-grade item except that this particular board may be routed to the other sorting table; or the processing may leave out one or more processing steps, including no processing at all, such as for items to be remanufactured by ripping.

This wide range of processing is carried out by a production system manned by a single operator. In fact, the entire processing—from the time the lumber leaves the planer until it's sorted, pulled and piled in package units—is carried out by this operator, two gradermen marking lumber be-

* **Irvington Automatic System of End Conditioning of lumber.**

hind the matcher, two stackermen and possibly a one or two-man crew pulling lumber at sorting table.

Stetson-Ross' new 16-knife 15x8-in. 6-16-A5 planer-matcher, with top and bottom splitting arbors, surfaces lumber in the unstacker shed. This high-production machine is served by two S-R feed tables—one receiving from a tilting breakdown hoist handling package loads and the other fed by a kiln-load unstacker—providing versatility to the installation and assuring an ever available source of lumber for the planer. Feed tables are hooked in tandem; when the second one operates the first one functions as a pass-through unit.

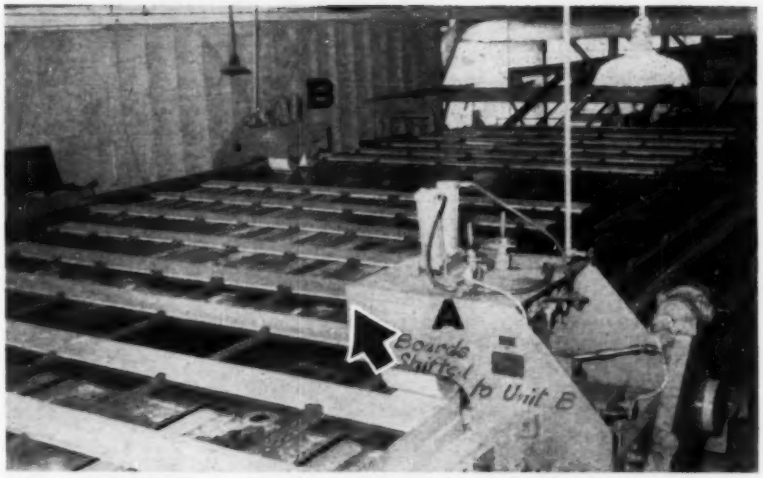
A PRODUCTION LINE transports surfaced stock from the planer, past graders, into the end-conditioning section which delivers the processed lumber to two conveyor tables, one above the other. Each terminates at a newly developed semi-automatic Lovsted package stacker. All lumber going to the top table is stacker handled. The bottom table has two to four sorts in addition to the automatic stacking. Consequently the dominant item of a run normally goes to the top table and there is machine packaged; the rest to the bottom table where the co-dominant item remains on the chains for mechanical packaging and the other items pulled and piled.

The elaborate end-conditioning facilities encompassed in the Irvasec installation consist of the following components developed and manufactured by Irvington Machine Works: A 20-ft. model 66 double-end End-Surfacer** in conjunction with model 46 automatic feeder, Irvac*** electro-mechanical memory control system and model 61 double-end random-length end printer and waxer.

The automatic feeder receives stock from the grading chain and continuously places one board on each set of feedchain lugs as they go past the charging point at speeds infinitely variable from 0 to 100 pieces per minute.

** Trade name copyrighted by Irvington.

*** Irvington Automatic Controller.



END-SURFACED BOARDS get starboard end trademarked and waxed at component, right foreground, are shifted automatically by Irvington model 41 double-end, random-length printer, waxer.

Once a board assumes position on the feedchain its sequence is established for the ensuing operations up to and including the point where it moves onto the appropriate sorting table.

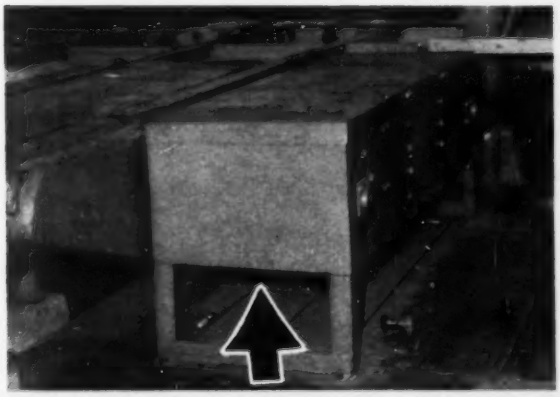
It's the "brain-box"— Irvac — that facilitates this sweeping scope of processing activities, all of which are automatically carried out by the Irvac memory system without operator participation or, at most, the depressing of two control keys.

THE END-CONDITIONER OPERATOR, whose functions are considerably more extensive than those of the conventional trimmerman, has a panel in front of him consisting of two rows of "organ keys", three banks of selector switches, an emergency stop button, and other specialty control members. Each of the five banks, both keys and control switches, has one member corresponding to each saw of the end-surfacer. There are, besides these, additional selectors and keys.

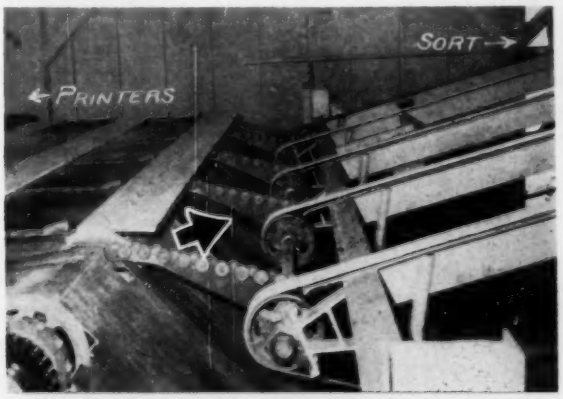
Keys in the upper row activate controls for disengaging respective saws of end-surfacer from their liftwheels; the lower-row keys are intended to operate in conjunction with an automatic face grade-stamp mechanism which is not currently installed.

IRVINGTON AUTOMATIC feeder charges each set of feed-chain lugs with a single grade-marked, surfaced board, shown in photo above.

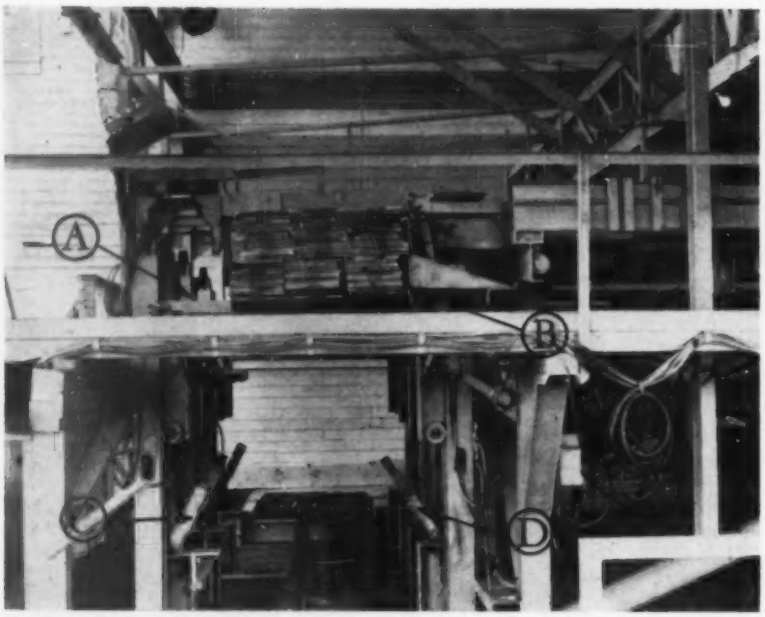
Selector-switch bank: Middle and bottom rows work in conjunction with



ONE OF TWO steel cabinets encloses activating mechanism of IRVAC, memory control system for end-conditioning facilities.



GRAVITY-ROLL bridging arms, IRVAC controlled, drop down to receive boards going to top sorting table, lift up for bottom sorter.



VIEW SHOWS location and position of arms which hold bunks. (A) and (B) show the bunks in place holding up the package of lumber. (C) and (D) each indicate arms in the fold-up position, two arms on each side; in this position, arms will "thread" through the descending arms and up into the top position, ready to receive bunk for another package.

the bottom row of keys, respectively controlling drop-sort valve, no trim, and printers; top row, in conjunction with upper row of keys, for operating or not operating drop-sort valve as result of activating the associated "organ" key.

According to A. T. Kauffman, manager of the Clearwater unit lumber department, the range of processing-flow combinations which can be attained by selector-switch settings is practically limitless. Despite this range potential, the operator's functions are unusually simplified.

Although it's an exceptionally responsible position, the operator functions are brief and objective. After the control panel components are suitably positioned for a specific run of stock, all of the various processing functions are performed (or appropriately not performed) for any length board going through IRVASEC by one of three acts by the operator—(1) do nothing, (2) depress one key, (3) depress two keys. Any one of these will predetermine the entire processing for the specific board, including to which of the two sorting-packaging tables it goes.

THE OPERATOR'S FUNCTIONS have been likened to "playing music . . . all he does is read the 'music' indicated on boards approaching the end surfacer and activate the organ keys accordingly." In this set-up the graders, working in conventional manner, "write the music . . . telling somebody via symbols what they have in mind" and the operator "plays" accordingly.

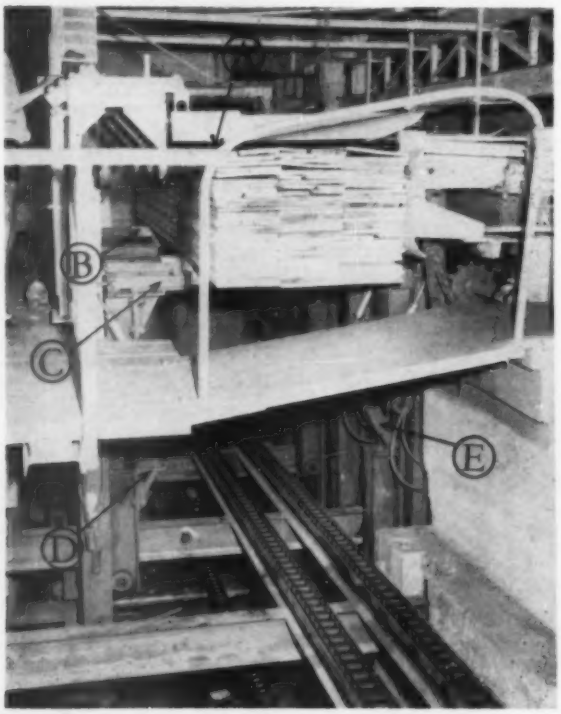
A simplified example illustrating production processing on a run of givensize 20 ft. lumber:

For an on-grade board—the operator does nothing and the end-conditioner system automatically surfaces each end to 20-ft. 1/16-in. length, end prints and waxes one end, shifts board longitudinally, prints and waxes other end, delivers board to top sorting table;

For board to be ripped—operator depresses one key with result that board goes through IRVASEC without processing to be delivered to bottom sorting table;

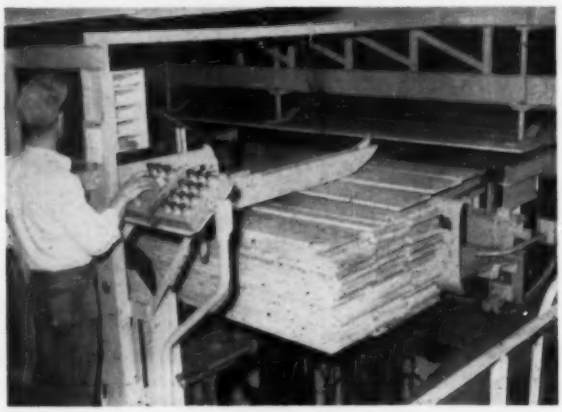
For board requiring trimming at either end—operator will depress one key if the resultant length calls for end printing-waxing, two keys if stock of this length is not to be printed;

For lower grade board — operator presses one key with result the board is surfaced both ends (which is automatically carried out in all cases ex-



HERE THE FINAL course of boards has been laid. Flow of boards from stacker has been stopped at (A). Arms (B) and (C) hold the wooden bunks. Identical sets of arms (D) and (E) are folded upward, ascend simultaneously with package of lumber. When (D) and (E) clear descending package, they are in position for new set of bunks. Only delay is time for operator to replace bunks by hand.

CONTROL PANEL, photo below, is located where the operator will have unobstructed view of stacker and sorting chains behind it. Elevator - accumulator accommodates 60 courses of 4/4 boards.



cepting trim-backs and boards going through without processing) and delivered to bottom tray (no end printing-waxing).

Small Package Stacker Aids Process

EXCELLENT RESULTS in terms of high production and reduced handling also are being realized with a new small-package lumber stacker and continuous accumulator elevator, in use by Potlatch Forests, Inc., at Lewiston.

Placed into full operation in early fall, the stacker and continuous accumulator elevator is an integral part of the new planing mill addition. (The stacker and elevator actually consists of two identical units, operating simultaneously, each on its own sorting chain.) It is the last piece of modern high-speed machinery in the series that consists of a new blanker, planer, trimmer and double-end printer.

This continuous accumulator elevator differs from others in that it was designed to reduce to the fewest number of seconds the time lost during the discharge of a package of lumber. This has been accomplished by the addition of a second set of bunk-holding arms. As a package of lumber descends on the elevator (to the chains below), the other set of arms ascends into place. The operator then sets two bunks in place and starts the stacker going again.

This type of continuous accumulator installation at Lewiston described here was developed, designed, and built by C. M. Lovsted & Co., Seattle. PFI performed the installation.

In the industry, generally, the normal interval between packages is from 20-60 seconds. On the PFI machine, this time has been cut down to just the time that it takes for the operator to put two bunks across for the next package. In a high speed operation such as this new one at PFI, the amount of production lost in a day with normal elevators would tend to be critical.

The capacity of this elevator has not yet been reached, but it is roughly estimated it can handle 200M board feet in a shift.

Additional facts about the elevator:

- It can stack lumber at the rate of 300 ft. of chain travel per minute.
- Chains can be full, back to the trimmer, and the stacker can start up and have the chains empty without having a jam-up.
- Limit switches of conventional type are used in elevator.
- Controls are all electric; push-button operator's panel.
- Designed for 42-inch wide packages, with provision for future extension to 48 inches. A full load is 60 courses of lumber. A similar elevator can take up to 54x54 inch packages.
- Stacker proper is designated as small packagestacker of the crank-and-carriage design.

Vacuum Unloads Pulp Chips

A NEW METHOD of unloading pulp chips from open-top railroad cars and conveying them to storage silos has been introduced at the Shelton, Wash., mill of Rayonier, Inc., through installation of a Conveyair vacuum chip unloader combined with a Chipveyer manufactured by the same supplier.

Special features of the installation embrace a twin port rotating pickup head, air-tight heavy duty knuckle joints to provide flexibility in the suction pipe, and full-flow separating cyclone.

This combination of equipment performs the job expeditiously and economically. The system at Shelton is designed to unload one car of chips (averaging 22 units) per hour. Power requirements for this size of vacuum system total a maximum of 125 hp. Power needed for the pressure system depends on the distance from the separating cyclone to the storage area. At Rayonier's Shelton mill a 75 hp. motor is used to convey the chips a horizontal distance of 300 feet and 100 feet elevation with 300 degrees of bends.

The rail car of chips to be unloaded is moved back and forth under the nozzle by means of a reversing car puller.

The operator, located in a control booth over the car, raises or lowers the pickup head and moves the nozzle the width of the car as desired, by remote controls.

ROTATING SUCTION NOZZLE is designed to break up frozen or tightly compacted chips when necessary. The suction pulls the chips into the separating cyclone where the vacuum releases the material and the chips fall into a Conveyair star feeder. From the feeder the pressure system takes over and conveys the material to the storage silos.

An installation such as this is said to be about one third the cost of a pit or dumping system.

Although the Shelton system is designed for one car per hour the installation can be designed to work at any capacity desired by the customer.

It is pointed out that it is not necessary to use a pressure system in connection with vacuum system, as the chips can be discharged from the separating cyclone onto a belt or other conveyer. Although this system is primarily used for chips, it can be adapted to other materials such as hog fuel, fines, etc. Systems for side unloading of cars are also available.

VACUUM CHIP UNLOADER at the Shelton, Wash., mill of Rayonier, Inc., handles a carload per hour. Operated by one man, in control booth at top left, suction line is shown curving into car. This feeds separating cyclone at right and the chips then fall into a star feeder where they are blown back over tracks to storage silo.

PRE-LOGGING in the Nanaimo Lakes country on Vancouver Island. Tree falling is "to lead" so that the logs can be hauled by high-lead system direct to the road or loading point, leaving big timber intact for a later harvesting. (Photos by Jack Cash)

Prelogging Old Growth Timber Adds To Wood Recovery

Canadian firm ups logging yields by 15,000 board feet an acre in operation utilizing mobile spar tree yarders

A-FRAME is used for unloading trucks converging at the dump from pre-logging and other operations in Nanaimo Lakes country. Entire load is lifted from the truck and lowered into the water, not dumped, to prevent breakage and accumulation of debris at the bottom of the lake. A Ford engine powers the A-frame used here.

WHEREVER TIMBER and terrain make it practical, pre-logging has become standard practice with one of British Columbia's biggest operators, Crown Zellerbach's Canadian Western Lumber Co. (Comox Logging & Railway Co.) on Vancouver Island.

Adopted on an experimental basis for the first time last summer and still only on a small scale in relation to the company's over-all log production program, pre-logging is now here to stay, in the opinion of company executives, because it has proved its value.

If pre-logging works out as expected, it will add 15 to 20 percent to the wood recovery from each forested acre where this technique is applied. But of course it cannot be practiced economically in every area where the company logs. Where it can, however, the results have been impressive.

Comox Logging & Railway Co., major logging subsidiary of Crown Zellerbach Canada, is big and resourceful, and its Nanaimo Lakes operation qualifies as one of the largest log producers in the Pacific Northwest. In one month recently the Nanaimo Lakes operation produced 25,000,000 feet in a 20-day period.

RESOURCEFUL AND ORIGINAL

MODERN EQUIPMENT is featured at Nanaimo Lakes operation. In use is Washington Trakloader for picking up logs along the right-of-way. For small pre-logged timber ¾ yd. shovels are popular.

in its thinking, Comox Logging Co. was one of the pioneers in salvage logging in British Columbia. Co-operating with Powell River Co. and the provincial government, it carried out the historic "Ladysmith Experiment" to prove that it could be profitable for loggers to go into an area where primary logging had already taken place and take out the small trees knocked down and forest residue and convert it into pulpwood. That was an almost unheard of procedure in British Columbia at that time—in 1944—but it paved the way for extensive small-log salvage activity in many parts of the province today. And, like so many other recent logging developments in the Northwest, it was economic only because of the happy marriage that has taken place between the sawmill and pulp mill.

But the Nanaimo Lakes program, although in harmony with the main principle of salvage logging, represents a concept just the reverse of the practice followed in the Ladysmith experiment. At Nanaimo Lakes the salvage loggers enter the timber before, not after, prime logging has taken place.

A point that makes this operation unique is that the pre-logging is done with high lead rigging and relatively small, mobile spar trees mounted on trucks. The company has three Berger Porta-towers with 70 foot spars, and it has experimented with a 90 foot and a 70 foot spar built by Burrard Dry Dock, mounted on railroad wheels and hauled by tractor. Recently it has come up with a machine of its own —still somewhat of an improvisation, but nevertheless so successful that it may become standard equipment for this type of logging in this company's timber stands.

The 45 foot spar, fabricated from a shovel boom, and hinged, is mounted on a Cummins-powered truck, with

NANAIMO LAKES logging is planned by Bill Chalmers, left, supt., and Ken Mulholland, forester, right.

MOUNTED ON SERIES of rail car wheels from which flanges have been removed is this Burrard spar tree setup. For pre-logging, Comox Logging & Railway Company has developed its own portable spar, mounted on a truck chassis and powered by a Cummins diesel engine.

a Skagit BU-30 donkey also mounted thereon. This unit, as mobile as any other truck, is used as a yarder for pre-logging in conjunction with conventional high lead. It yards out windfalls, snags and small trees up to a 14 inch butt—Douglas fir, hemlock and cedar, and has a reach of six to seven hundred feet.

WITH THIS TYPE MACHINE, prelogging can be carried out satisfactorily in forested areas that would be difficult if not impossible for tractors. In the past, the company was more or less limited to valley bottom timber for economical salvage logging, but with the high lead and light, portable yards the whole operation becomes more flexible and universal in its application.

It's still too early to set down exactly how this company plans and develops a pre-logging show of this kind as a general rule. But in theory, once the timber site to be prime logged has been chosen and the roads built, the pre-logging crew goes into action with its portable yarders and high-lead rigging. When it has finished its job, the site has been greatly improved for big-tree logging. The small stuff and debris have been removed; the area has become almost park-like in appearance, with the big timber, more easily accessible, ready to be logged. Pre-logging has not only rendered the big trees less susceptible to breakage; it has greatly reduced the fire hazard.

At Nanaimo Lakes, as in all other operations, the company follows the practice of renting the power saws from individual fallers who are paid so much per thousand feet. In that way, the fallers work independently; but they are under definite instructions when on a pre-logging job to fall the trees "to lead". This means making sure that the small timber falls towards a clear path to the yarding unit so that it can be hauled out between the big trees with a minimum of friction. The ideal would be to have these small trees lying on the ground in directions like the spokes of a wheel, with the yarding unit as the hub; or, if different conditions prevail, like the bones of a fish in relation to the backbone, the latter representing the logging road.

ADVANTAGES OF THIS TYPE of prelogging are obvious. If pre-logging were not adopted, and the forest was clear-cut, the yarding crew would spend much of its time in fighting hangups, hauling logs around stumps and working out of other complications.

Comox Logging operators make it clear, of course, that unless a given stand has plenty of prime timber which is to be logged anyway, it would not pay to enter the area simply to take out the small stuff and nothing else. With this company, pre-logging is definitely a subsidiary to the prime logging operation, but an increasingly important one. It has become, indeed, a valuable form of wood utilization, capable of producing at least 15,000-20,000 feet to the acre of wood that otherwise would be largely wasted, while at the same time improving the site for big-tree logging. Most of the pre-logged material goes to the pulp mills, although some of the Douglas fir butt logs are suitable for sawmills with gang mills.

Comox Logging & Railway Co. thinks so well of its mobile spar tree yarders, built in its own completely equipped machine shop at Ladysmith, that it will go ahead with construction of three more. Although the spars are actually only 40 feet in length, with the elevation of the truck on which they are attached they are actually 45 feet tall.

SEVERAL TYPES OF LOADERS are used by the company, including Marion and Bucyrus Erie shovels and a Washington Trakloader, but for pre-logging the equivalent of a three quarter yard shovel has been found most desirable, as larger units have more capacity than is needed. The logs handled average about 80 board feet, and about seven or eight truck loads are handled daily from the pre-logging show. Twenty loads a day will be reached, according to plans.

The company has more than 350 miles of road in the Nanaimo Lakes area. Only a fraction of this mileage will be involved in pre-logging. The truck roads converge on the lake, where the whole load is lifted by A-frame powered by a Ford engine and lowered—not dumped—into the water, this procedure being applied to all types of logs. In the lake, the logs are given a preliminary sorting, fed into the steel device known as Joe's Jaw (after Joe Cliffe, logging manager for Crown Zellerbach Canada, who originated it), bundled and loaded on rail cars for the 23-mile run down to Ladysmith. At tidewater, the logs are boomed, ready for towing across the Gulf of Georgia to Fraser Mills or disposed of otherwise according to market requirements. Most of the pre-logged material has its final destination at the company's mill (Elk Falls Co.) at Duncan Bay.

Logging Personnel

Top man in Crown Zellerbach Canada's timber and logging organization is Vice President O. D. Hallin, and a key role in the company's Vancouver Island logging operations is A. W. Rafter, assistant logging manager, who is also vice president of Northern Pulpwoods, Comox Logging & Railway Co. and Canadian Tugboat Co., all CZC subsidiaries. Logging manager for the company is Joe S. Cliffe, veteran Vancouver Island logger.

Directly in charge of the Ladysmith-Nanaimo Lakes operation is W. S. (Bill) Chalmers, superintendent. Camp foreman for Nanaimo Lakes is Gordon Naylor. Dick Dods, master mechanic, supervised construction of the company's new portable logging towers according to Mr. Cliffe's specifications.

Ken Mulholland, son of Fred Mulholland, for many years chief forester for Comox Logging & Railway Co., is forester for Canadian Western Lumber Co. and Elk Falls Co. John Duncan is engineer on road construction and development.

Company Converts from Rail to Trucks

Another major railroad logging operation is being converted into a truck show by MacMillan & Bloedel on Vancouver Island. President H. S. Berryman says that it has been decided to carry out a $1,000,000 changeover at the company's Franklin River division during the next twelve months. Franklin River will be a 100 percent truck operation by next September.

The first step is to build a truck road from Camp 8 to the mouth of Coleman Creek, a distance of 6½ miles, and construction of a log dump at Coleman Creek has already been started.

"Before converting our railroad operations into trucking we carefully assessed all factors in relation to Franklin River's terrain and timber stands", said Mr. Berryman. Franklin River is on Alberni Canal, where an adjacent Sarita River truck operation has been maintained by the company for several years.

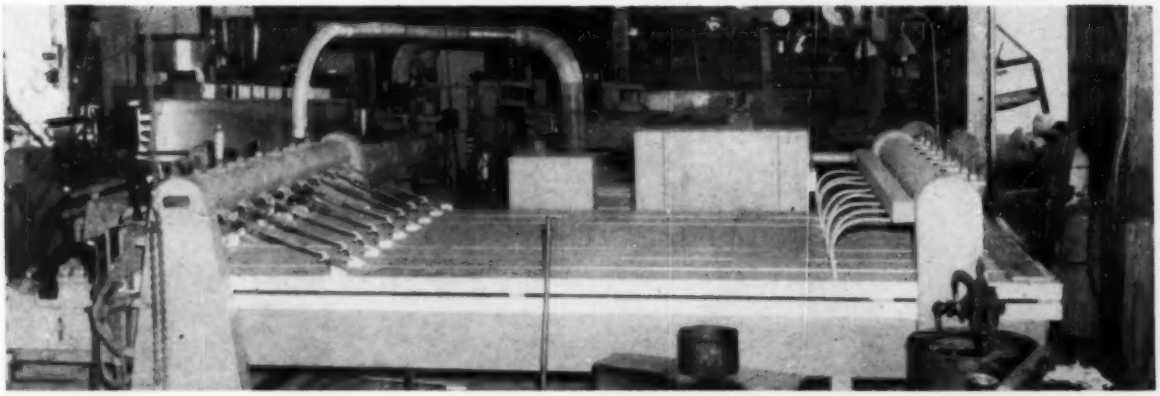
A major job of construction will result from the company's decision. The railroad between Camp B and the present dump at Franklin River, a distance of 14 miles, has 23 bridges, in aggregate length about one mile of timber trestle where the scale from brake shoes creates a fire hazard in dry weather. These bridges are also a hazard at times of freshet, when high water has caused disastrous washouts in the past.

The new truck route will shorten the distance by 7½ miles. The new log dump at Coleman Creek will be protected from storms by a rock fill. Bundled log loads will be lowered from the trucks and towed for storing and delivery to the company's various mills at Port Alberni which are equipped to make maximum use of all available species and qualities.

Mr. Berryman believes that a switch to truck logging will make for better forestry. Seed trees left standing in patch logging insure a quicker start of the next crop, and the big truck road system will provide access necessary for intensive forest management. Better recovery of timber will also be made possible. Much timber on the higher elevations has been inaccessible to railroad logging.

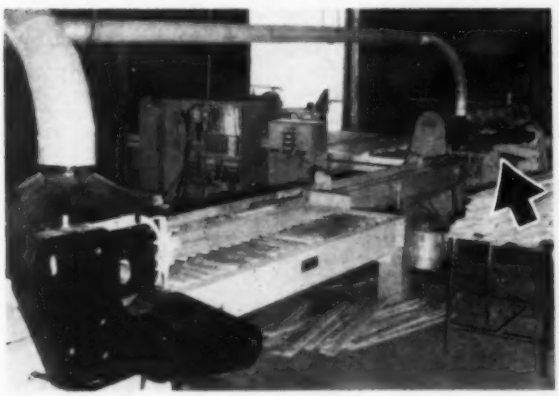
Reduced fire hazard is another expected result, due to smaller settings, less felled and bucked timber and faster access in the event of fire.

R. H. Daines is manager of the Franklin River division, with J. A. Bell general foreman.



PILOT MODEL of Coos Continuous Splicer and Laminator, mfgd. by Coos Corp., is being tried out in North Bend, Ore. Overall view shows the two units, laminator in foreground. Units work singly or can be teamed. Lumber from 6" wide to 4" thick can be fed into laminator at left side, is then pushed by pressure bar between two heated platens, where resin binding edges of wood together sets. Resin is sprayed on leading edge of each piece of wood as it enters feed magazine at left. Automatic cut-off saw cuts lumber to 8' length as it enters feed magazine. Laminator feeds and operates at rate of one piece of lumber each 2 seconds. Production of 1 x 6 lumber 8 feet long would be 7200 board feet per hour.

Firm Introduces Laminator



IN LEFT PHOTO, looking from splitter head in foreground toward laminator feed. Splitter splits finger-jointed stock into predetermined widths. Stock goes onto sorting table, middle of photo, is fed onto live belt feeding direct to laminator automatic cut-off saw (arrow). Top photo shows splicer unit. It automatically cuts finger joints on random width and random length short pieces of lumber (up to 12" wide, 8" to 6' long), splits each piece into even widths, glues ends and joins them. Arrows show cutterheads.

Society of American Foresters Makes Awards

• Four awards for outstanding services to forestry were made at the 56th annual meeting of the Society of American Foresters held at Memphis, Tennessee, October 14-17, 1956. Presentations were made by President DeWitt Nelson, Department of Natural Resources, Sacramento, California.

The Sir William Schlich Memorial Medal for distinguished services to forestry was awarded to Samuel T. Dana of Ann Arbor, Michigan. Dr. Dana, a past president of the Society, is dean emeritus of the University of Michigan School of Natural Resources.

The medal is named in honor of the late Sir William Schlich, one time inspector general of forests in India, and author of the "Manual of Forestry," one of the early textbooks on silviculture.

The Gifford Pinchot medal was awarded to Inman F. Eldredge of New Orleans, Louisiana, for outstanding service to forestry. Mr. Eldredge is a former member of the Council of the Society, a long-time officer of the U. S. Forest Service, and well-known consulting forester.

Two special awards were made by the Society of American Foresters for outstanding achievement in biological research contributing to the advancement of forestry. Each award consists of an engraved plaque and a cash payment.

The recipients are Leo A. Isaac of the Pacific Northwest Forest and Range Experiment Station, Portland, Oregon, and Philip C. Wakeley of the Southern Forest Experiment Station at New Orleans, La. As Mr. Isaac is on a technical forestry assignment in Turkey for the United Nations, his award was presented in absentia.

The annual session attracted about 1100 professional foresters. The program theme "Forestry Faces Forward" was keynoted on the opening day by Joseph E. McCaffrey, International Paper Co., Mobile, Ala., speaking on "Making the Most of the Southern Forest"; S. M. Nickey, Jr., Nickey Bros. Inc., Memphis, Tenn., speaking on "Special Horizons in Hardwood Forestry" and J. Alfred Hall, U. S. Forest Products Laboratory, Madison, Wisconsin, speaking on "Opportunities and Problems in Utilizing Wood Products of the Southern and Southcentral Forest".

Technical sessions by 11 subject matter divisions were featured during the three-day session. Field trips to local mills and woods areas were planned for visitors.

Genetics Receives Grant

• Resources for the Future, a nonprofit foundation promoting research in the conservation of natural resources, has granted $6000 to the School of Forestry of the University of Minnesota. This fund will be used to enlarge the School's research and training program in forest genetics under the leadership of Dr. Scott S. Pauley. The program was initiated a year ago through the assistance of the Blandin Foundation of Grand Rapids.

EXAMPLE OF GOOD and bad-form Douglas fir trees found in natural stands. Tree on right has adequate crown and growth is slowing up on lower limbs. It is satisfactory-plus tree. Tree on the left has too heavy limb development. (Photo by USFS.)

Foresters Report On Nationwide Progress In Forest Genetics

Work continues on state, federal and private levels on all phases of tree improvement programs.

EDITOR'S NOTE: The following reports are the concluding installment in THE LUMBERMAN'S exclusive report on Forest Genetics. The first installment appeared in the August 1956 issue.

Appleton Institute Studies Pulping

LATE IN 1953, The Institute of Paper Chemistry, at Appleton, Wisconsin, initiated a permanent program of fundamental studies in forest genetics. The Institute is a graduate school and research organization of national scope which is supported by approximately three-fourths of the pulp and paper companies of the United States. Its services to the industry have increased rapidly since its founding in 1930, and are now performed by a staff of 250 persons.

In teamwork with the Institute research groups in analytical, cambial, cellulose, lignin, and organic chemistry, chemical engineering, fiber technology, physics, and the technology of pulping, bleaching, and paper-making, a genetics staff has been assembled to seek fundamental information about the manner in which and the degree to which hereditary influences registered during the formation of wood are reflected in processing and in the characteristics of the finished paper product. This is a field in which there is very little exact knowledge, and the application of findings in woodlands operations is expected to yield much advantage in the economy and efficiency of growing and processing wood for paper and paperboard.

The first project, supported by a group of companies, is an intensive study in aspen of the effects upon volume increment and certain papermaking characteristics, of multiplying the total number of heredity units ("genes"). It has resulted recently in the discovery of the first known wild aspen in North America, which has three sets ("triploid") of heredity units instead of two ("diploid"), which is the usual number.

STUDIES OF THE MODE of inheritance and of the variation in the forest of both wood and morphological features, and attempts to produce mutation by X-irradiation are also under way, and the genetics program is now being expanded to other species and to other pulp-producing regions.

The genetics staff includes three men with doctoral training in genetics, silviculture, forest soils, physiology, and cytology, as well as several research assistants. Construction of a genetics building, with greenhouse attached, was completed in 1954. Nearby is a 40-acre tract devoted to nursery, breeding arboretum, and testing of experimental trees.

Disease aspects have been studied in co-operation with the Lake States Forest Experiment Station of the U. S. Forest Service, and insect problems with the counsel of a forest entomologist. Field work proceeds in close cooperation with the woodlands and forestry departments of various paper companies, who have also made extensive areas available as test sites.

A course in forest genetics for the pulp and paper industry is offered to second-year Ph.D.-program students in the Institute graduate school.

University of Wisconsin Does Research

By ROBERT G. HITT

THE GENETICS DEPARTMENT of the University of Wisconsin in cooperation with the Wisconsin Conservation Department has undertaken a program of forest tree improvement research. General objective is improvement of the genetic quality of the planting stock used for reforestation.

SEED ORCHARDS: The most effective step which can be taken immediately to improve the genetic quality of the planting stock used in reforestation in Wisconsin is the establishment of a seed procurement plan which involves certification. Seed tree orchards or farms should be established to supply future needs for forest tree seed of improved genetic quality. Progeny tests will serve to determine the best parental combinations to be used or left in these seed tree orchards. A proposal has been drawn up for the establishment of a program of certification of forest tree seed used in Wisconsin. It involves bringing under "seed management" existing selected stands of forest trees of species most important in reforestation in the Lake States.

SUPERIOR TREES AND PROGENY Tests: To date over 275 individual tree selections have been made in Wisconsin. Included are selections of red pine (*Pinus Resinosa*), jack pine (*P. Banksiara*), white pine (*P. strobus*), white spruce (*Picea glauca*), black spruce (*P. Mariana*) and a number of trembling aspen (*Populus tremuloides*) and large toothed aspen (*P. grandidentata*). Open pollinated seed was collected from many of the trees in the fall of 1948. During the spring of 1953 nearly 15,000 transplants raised from this seed were set out in progeny tests in central and northeastern Wisconsin.

The seed and scion collections to date for the Wisconsin forest genetics project include over 25 species of *Pinus*, 5 species of *Larix*, 6 species of *Picea*, and 3 species of *Abies*. These represent over 300 different sources in 14 states, 7 Canadian provinces and 13 foreign countries and do not include any of the Wisconsin individual tree collections mentioned earlier. In order to avoid loss of all or part of this collection a number of breeding collection areas are to be established. Spreading the collection to several different sites avoids loss by fire, disease, insects, etc., but also puts the material more readily at hand and perhaps have it flowering at about the same time as does the native material in the vicinity.

HYBRIDIZATION FOR PRODUCTION: Hybridization studies are being conducted relative to the establishment of desirable clones or strains of natural and hybrid coniferous forest tree species. Initially, particular attention is being directed toward the improvement of native red pine. There may be two or more strains of red pine. Crosses are being made between different geographic types of this species in the hope of finding a hybrid. Controlled pollination work is also being performed using the selected red pine trees growing in Wisconsin.

The possibility of producing hybrids between red pine and some of the other hard pines is being explored. The hybrid resulting from crossing jack pine and lodgepole pine (*P. contorta var. latifolia*) which has been produced by the Institute of Forest Genetics and others shows promise.

Tree improvement work with hardwoods has thus far been primarily concerned with *Populus*. Selection of desirable parent trees has been started. The production of hybrid seedlings has been undertaken and attempts are being made to produce polyploid material with our two more important species, trembling and large-toothed aspen.

SPECIALIZED STUDIES: Vegetative propagation trials have been initiated with red pine to find a technique for inducing root formation on cuttings. Various techniques, media, hormones, etc., have been employed in these experiments. Experiments on field or free-land grafting of pine and spruce are planned. Methods to induce precocious or early flowering have been sought by tree breeders for some time. Sixteen test areas have been established in central and northern Wisconsin in order to test a number of different methods for their effectiveness in stimulating flowering on red pine.

A cone crop prediction survey has been made each year for the past several years in order to help the Conservation Department plan its cone buying program. Some cone picking time studies have been undertaken. Other specialized problems include the establishment and management of seed tree orchards, improved equipment and methods for controlled pollination work, the production of polyploid material, etc.

The first of the forest tree seed orchards to be established in Wisconsin was set out in the spring of 1955. This area and others to be established will serve as trial areas in which techniques for management of seed orchards can be developed. Eventually it is hoped that much of the seed used in the reforestation work in Wisconsin can be harvested from such seed orchards. These seed orchards will be made up of grafted material from selected trees scattered throughout the state.

Northeast Reports on Genetics Studies

By RALPH W. MARQUIS

THE PROGRAM STARTED in 1935 when the Northeastern Station took over from the Oxford Paper Company the experimental work on hybrid poplars. Though the poplar studies continued to be an important part of the tree-improvement program, studies were started immediately on other important forest trees in the Northeast.

Exploratory studies were made for fourteen of the most common and most important genera. Five of these were later selected for more intensive study.

The program developed along several lines: (1) hybridization and the mass-production of hybrids, (2) racial tests, (3) individual tree selection, (4) the study of exotics, and (5) field testing.

HYBRIDIZATION: Since many agencies are working on pine genetics, work was confined to the 5-needled white pines and to the series Sylvestres in the hard pines (Scotch pine, red pine, Austrian pine, etc.) because these groups include our imported northeastern pines. Of 63 different species combinations attempted, 25 yielded identifiable hybride.

Oldest hybrids are the 30-year-old hybrid poplars in a seedling plantation in Maine. Many of the surviving hybrids are now 80 to 85 feet tall. About 200 selections have been made from these plantations and replicated clonal tests have been established at several localities in the Northeast. These hybrids have also been sent to several organizations in the Lake States and Central States.

Last year 70 hybrid clones representing 23 different parent combinations were released for country-wide tests. Two cuttings of each of four hybrids were sent to nearly 3,500 cooperators, mostly farmers and small landowners, who have agreed to provide information on survival and growth during the first 2 years. Each clone is being tested in as many regions as possible, and records of the identity of the clones sent to each cooperator have been kept.

Oldest hybrids of other genera date from about 1940. Among them, two pine hybrids are outgrowing their par-

(*Continued on page* 112)

Mr. Marquis is director of Northeastern Forest Experiment Station, Upper Darby, Pa.

Plywood Department

Around the Industry . . .

• Sale of 29,500,000 board feet of timber in the Swift Creek drainage of the Gifford Pinchot National Forest in Washington was made in September to Aberdeen Plywood Corp. of Aberdeen, Wash., with a bid of $671,690.

• Edward W. Hays of Eureka, Calif., has accepted the position of general manager of the Western States Plywood Cooperative, Port Orford, Ore., replacing W. S. Henson.

Hays comes from Eureka Plywood, Eureka, Calif. He assumed his new duties in mid-September.

• New manager at Stevenson Co-Ply, Inc., plant in Stevenson, Wash., is John K. Waters, Portland, Ore., who previously served as secretary-treasurer of Linnton Plywood in Portland. Walter Urbanek, Portland, is new plant superintendent. Waters has five years experience as a plywood plant executive. Urbanek, with 25 years experience in plywood production, formerly was with Fort Vancouver Plywood, Vancouver, Wash.

• The Centralia Plywood Co., Centralia, Wash., was closed in October to balance inventories and production. It will reopen when the price structure becomes more favorable.

• Plans of Georgia Pacific corporation to greatly expand its plywood production capacity at Toledo, Ore., center of the company's operations, were announced in October.

The new facilities will be constructed adjoining the present plywood mill, one of the larger units on the coast, and are related to Georgia Pacific's rapid growth and recent acquisition of extensive timberlands along the Oregon coast.

Several million dollars in capital are involved in the expansion.

• The Aberdeen Plywood Corp., Aberdeen, Wash., shut down indefinitely in late Oct. General Manager Vernon A. Nyman said the plant would stay down until the plywood market reaches a point where the plant could operate profitably again.

• The application of Everett Plywood and Door Corporation, Everett, Wash., for an operating loan of $560,000 has been approved by the Small Business Administration.

It will be a joint loan between the government and People's National Bank with the government participating to $250,000.

• Purchase of $2,500,000 of plywood from Northwest mills for the Department of Defense was announced in mid-October.

The comparatively low price of plywood at present makes the order a good buy for the government, according to spokesmen.

UNDER NEW Commercial Standard, CS 35-56, companies which grade mark plywood in accordance with quality control program of Hardwood Plywood Institute use Certificate of Inspection (left) for carload lots. Plywood panels bear appropriate grade marks and HPI trademark (at right). These appear stamped on back or ends of the panels or in labels affixed to them. If both sides of panels are exposed, labeling shown at lower right is placed on panel ends.

New Commercial Standard For Hardwood Plywood Released

The U. S. Department of Commerce in October promulgated a new Commercial Standard for hardwood plywood, according to Charles E. Close, managing-director of the Hardwood Plywood Institute.

The new standard, CS 35-56, is based on quality production practices encouraged by the Institute through its quality control program backed by testing and research at its Atlanta, Ga., laboratory.

The standard provides minimum specifications for three types of hardwood plywood in four standard grades. It also sets forth test requirements and establishes grade names which have been in use by many members of the Hardwood Plywood Institute.

Included in the standard are specifications regarding standard thicknesses, widths and lengths, tolerances, densities of the wood, workmanship, inspection and method of ordering. Nomenclature and definitions of terms used in connection with the material also form part of the new standard.

The types of hardwood plywood are distinguished by the difference in performance of the glue bond between veneers. Grades are based on appearance factors of the faces or the faces and backs of panels.

Types defined in the new standard are classified as Type I, Type II, and Type III. A special type, called Technical, is also provided.

The standard grades are designated Good, Sound, Utility and Backing. A special grade, called Custom, also is provided.

Type I has a fully waterproof bond that withstands full weather exposure and is unaffected by microorganisms.

Type II is produced with a water resistant bond which must retain practically all its strength when subjected to an occasional thorough wetting and drying.

Type III contains a moisture resistant bond which must retain practically all its strength when occasionally subjected to moisture.

Good grade, recommended for use where a natural finish is desired, has a face made of tight, smoothly cut veneer containing the natural character markings inherent in the species.

Sound grade is intended for smooth paint finishes. The face is free of open defects, thus offering a sound, smooth surface.

Utility grade, designed for use where appearance is not an important factor, may contain various natural characteristics.

Backing grade is recommended for uses where appearance is not a consideration. It may contain a number of natural characteristics not allowed in the higher grades.

Custom grade embraces the most luxurious of hardwood plywood. It is specially selected on the basis of specifications agreed upon by the buyer and the seller.

Eleven standard thicknesses ranging from ⅛-inch to 1 inch are listed in the new specifications. A plus or minus tolerance of 1/32-inch is permitted for unsanded panels and a 1/32-inch minus tolerance only for sanded units.

Widths of 24, 30, 36, 42 and 48 inches are specified, along with standard lengths of 48, 60, 72, 84 and 96 inches. In both widths and lengths of panels a plus or minus tolerance of 1/32-inch is allowed.

Plywood Department

Roseburg, Ore. Plywood Plant Described

• The proposed Roseburg, Ore., plywood plant of U. S. Plywood Corp. will begin operating sometime late next year. In full production it will employ between 750 and 1,000 persons five years hence.

Plans call for a sawmill, a veneer plant and a plant to take care of excess material. Later, a glue making plant may be added.

The plant is expected to handle 1,200,000 board feet of Novo Ply on a three-eighths inch basis per week. It is at the site of the old Young's Bay Co. lumber plant.

It will have facilities for steaming logs. This process will get a smoother veneer and cut glue costs. Automatic and semi-automatic feeds will be used on dryers, presses, joiners, edge gluers and skinners.

Facilities for producing 100,000 pounds of steam per hour and 250 pounds of pressure and hot presses are in the plans.

Imports Hurt Ply Industry

• The plywood industry of the Pacific Northwest has been "adversely affected" by hardwood plywood imports into the United States, Rep. Harris Ellsworth of Oregon claims in a letter to Army Secretary Wilbur Brucker.

Ellsworth said the imports from cheap labor areas "now represent 40 percent of the total consumption of this country." He stated that they make an "impossible competitive situation for American industry and labor to meet."

"Certain parts of the industry," the congressman wrote, "have been forced to cut back their production substantially—particularly in the flush door industry, where production has been cut back as much as 75 percent below normal in some plants."

Ellsworth condemned the efforts of "some parties" who, he said, are trying to persuade the Defense Department to permit the use of imported plywood and other lumber products in military construction.

Georgia-Pacific Profits And Sales Up

Georgia-Pacific Corporation reported record earnings and sales for both the quarter and nine-month period ended September 30, 1956.

For the nine-month period sales were $77,888,481, compared with $67,797,118 a year ago. Net profits after taxes were $5,444,522, compared with $4,552,712 a year earlier. On a per-share basis, after adjusting for the 2-for-1 stock split effective in September, 1956, profits were $2.11 on the 2,554,966 shares outstanding on September 30, 1956, as compared with $1.90 on the smaller number of shares of 2,360,394 outstanding at the end of the similar 1955 period.

For the quarter just ended, sales were $29,379,352, compared with $22,617,518 a year ago, and profits were $1,875,982, or $.72 per share, versus $1,589,269, or $.65 per share on the smaller number of shares a year earlier.

Three Panelings Announced

• Three new hardwood interior wall panels, made in v-grooved random widths from cativo, walnut and cherry woods and prefinished ready for easy installation, now are available from Georgia-Pacific Corporation.

These decorative new panelings, together with the v-grooved birch, red gum and honeytone oak panels also produced by Georgia-Pacific, afford a wide choice of hardwood panels with many exclusive features. They bring the rich beauty and classic elegance of genuine wood wall panels within easy reach of the average home owner.

The new blond cativo, cherry and walnut plywood panels are v-grooved on the veneer joints in random plank widths. Edges are eased for continuous panel effect. Panels are back sealed for stability, and are packaged ten panels to a carton for surface protection. They are available in 4′x8′ and 4′x7′ size panels, which can be put up easily and quickly.

New DFPA Officers Named

• Named president of the Douglas Fir Plywood Association in October was B. V. Hancock, executive vice president of Cascades Plywood Corporation of Lebanon, Oregon, and Portland, Oregon.

Hancock will serve out the unexpired term of Howard Garrison, former vice president of Evans Products Co., Coos Bay, Oregon, who resigned after leaving the fir plywood industry.

Charles Snellstrom, president and general manager of Snellstrom Lumber Co., Eugene, Oregon, was named a member of the Board of Trustees of DFPA, trade promotional organization of the western fir plywood industry.

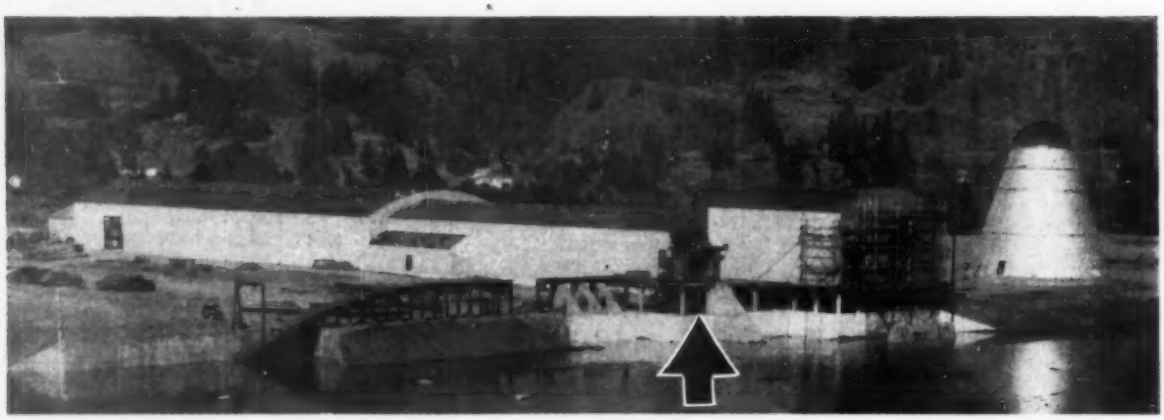
Snellstrom replaces Robert Kelly, former sales manager of the M and M Wood Working Company of Portland, who also recently resigned.

Both electees will serve until the annual meeting of the fir plywood group to be held next June. Hancock is a former president of the plywood association, having served a term in that office from June 1951 to June 1952.

New Idea Reduces Patches

• A former German law student, H. A. Albrecht, production control clerk at MacMillan & Bloedel's Alberni Plywood Division, has won a $1250 award for a suggestion to improve quality and appearance of plywood. Working with Plant Engineer Ed Bayley, Albrecht devised a technique which binds splits in plywood, removing the necessity for patching of splits later. A major reduction in "shim patches" on the face of plywood panels is said to have resulted from adoption of this device. About 125 sheets of veneer per hour can be handled by the machine, for which the company is seeking a patent. Albrecht came to this country from Germany in 1952.

EVANS PRODUCTS CO., Coos Bay, Ore. is building new green veneer plant near Ophir, north of Gold Beach, Ore. of unannounced daily capacity. Shown at left in mid October is Caterpillar equipment digging out 42 acre log pond. At right of dike, center of photo, is plant site. Unit will be operating first of 1957. Veneer will be shipped out via truck to other plants for use.



GREEN VENEER plant of U. S. Plywood Corp., located on Jerry's Flat on Rogue River near Gold Beach, Oregon, begins production in December. This 30,000 square ft. building, fabricated by Timber Structures, Inc., is 500 feet long, 80 feet wide, has Duraply exterior siding. Capacity is 300,000 square feet (⅜-in. basis) daily, consigned to Eugene and Willamina plants of U. S. Plywood. Manager of plant is Frank McPherson, formerly at Willamina, Oregon. Equipment which will be used includes a 125-inch Coe lathe, with 110-inch swing; 6 tray Coe system; two 135-inch Coe clippers; 130 ft. green chain; Coe 66-inch core lathe with 3 trays; Ederer overhead barker (see arrow) and charger; Hanchett sharpener; Gardner-Denver compressor; General Electric speed variator.

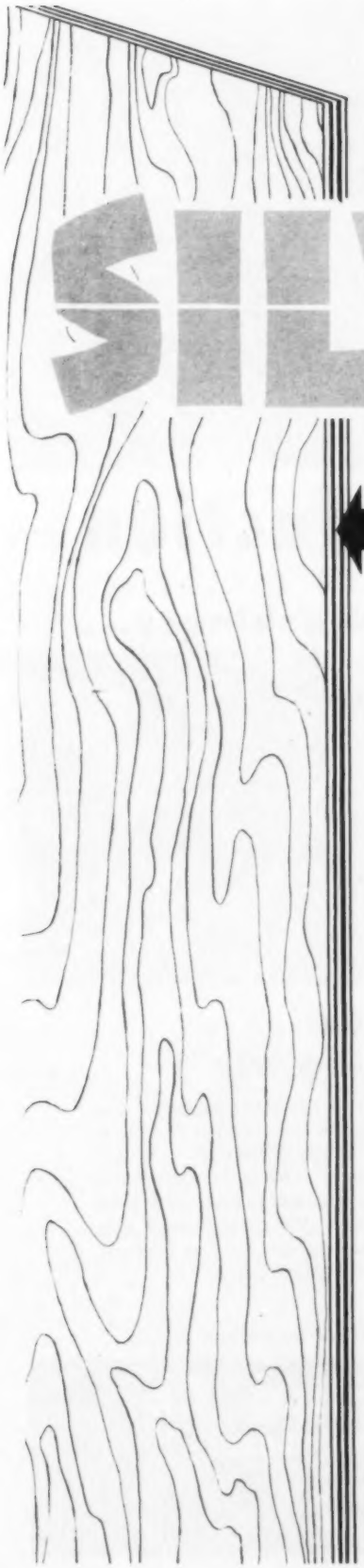
U. S. Plywood Rushes Completion of Gold Beach, Ore. Plant

COLD DECKING logs with Bucyrus-Erie shovel. Truck in use is International-Harvester. Million dollar 11-mile access road will be built. Timber is a private tract purchased from Lloyd Corp. The first 4½ miles up Rogue River to Lobster Creek has 24 foot surfaced double lane. Balance is 16 foot with turnouts. A 300 foot span will cross Rogue River at Lobster Creek.

TWO PUMPS deliver 5,000 gal. per min. to log pond, through 14-inch pipe and flume. Fairbanks-Morse, with 30 hp. motor at right. Pacific, with Waukesha engine, is at left.

CEDAR RAPIDS crusher is accumulating 60,000 cu. yd. stockpile of gravel for road construction. On stockpile is D8 "Cat", used for spreading material. 12 to 18 inches of river bank gravel is used for base rock; 6 inches of 1½-inch minus for surfacing. Frederick and Watson, contractors, used two D8 "Cats" for clearing, another D8 for pioneering. Two D8's have twin-tooth Preco rippers. Road engineering was done by U. S. Plywood. The location will preserve a timber strip along the scenic Rogue River.

TWO SOLID CONCRETE log dumps are at lower end of 41 acre log pond, with 12 million foot capacity. 150-ft. wide dike around pond allows turning room for trucks, eliminating backing up; provides decking room. Pond will have 8 ft. depth, will be spring and river fed. Two ft. of river bank gravel was used to build up 85 acre plant site above flood level. Five "Cat" DW 20 fifteen-yard scrapers moved the gravel from Rogue's banks. 100 million feet of timber on Saunders Creek provided first logging show.



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  — Saves core at the spreader
- LONGER ASSEMBLY TIME
  — Minimum dry-out
- FEWER "BLOWS"
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Lower production cost and more dependable plywood quality are advantages offered by use of Silvacon. Together, they spell a lower break-even point, more profit and steadier sales to satisfied customers.

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Test Silvacon in your plant now! Let us demonstrate its advantages . . . as proved by performance throughout the industry.

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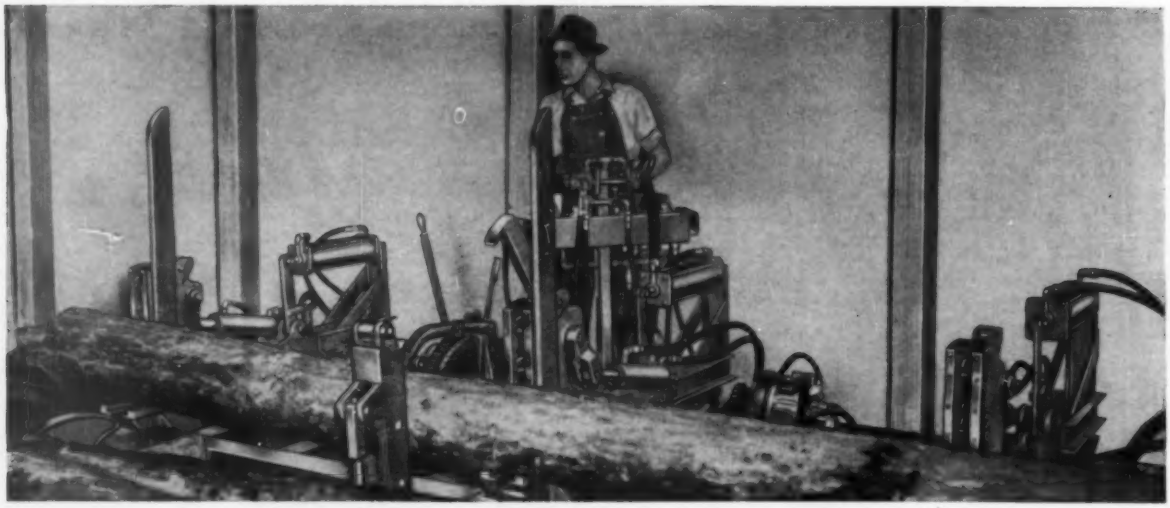

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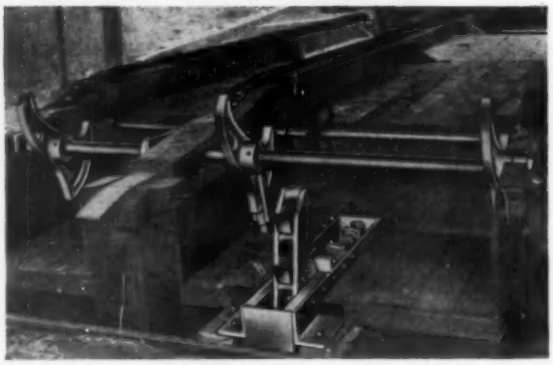
A lot of practical people in the sawmill business prefer Corley machinery simply because it does the job profitably.



The Corley air carriage

Dogs, tapers and setworks are operated by the blocksetter riding the Corley Air Carriage. (On special order, the carriage can be made for complete operation by the sawyer.) In combination with the Corley Hy-Power Log Turner and Loader, this carriage makes it possible to trim labor costs to the barest bone.

MAKE MONEY WITH A CORLEY!

The Corley cost-cutting trio

All deck operations are handled by the sawyer on a Cost-Cutting Trio installation. The Corley Live Deck brings down a log and places it on the Loader cradle at touch of a button. The log is loaded on the carriage at pressure on the foot treadle. It is positioned and held for dogging by the Hydraulic Log Turner. Using a single control stick, the sawyer can turn the log quickly. Costs go down and profits go up with the Corley Cost-Cutting Trio.

Write, wire or call for specific information at no obligation to you.

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Kaiser Purchases Big Fir-Tex Plant

• Purchase of Fir-Tex Insulating Board, Inc., at St. Helens, Ore., from the investment firm of Blyth & Co. by Kaiser Gypsum Company, Inc., was announced in October by Claude E. Harper, vice president and general manager of Kaiser Gypsum.

The transaction was a multimillion dollar deal, in the neighborhood of $8,000,000.

The purchase included the principal Fir-Tex plant at St. Helens, which manufactures a full line of nationally distributed insulation board products; more than 16,000 acres of timber land in Oregon and Washington; and Western Insulated Products, Inc., a wholly-owned subsidiary.

The Fir-Tex properties were a part of the holding of Dant & Russell, Inc., of Portland, acquired by Blyth & Co. earlier this year in a $100,000,000 deal. Kaiser Gypsum took over the plants and other properties November 5.

Harper said that Fir-Tex would become the Insulating Board division of Kaiser Gypsum and that products of the St. Helens plant would continue to be distributed throughout the United States through normal trade channels.

The Fir-Tex plant, one of four producing insulating board in the West, includes 14 major buildings on 175 acres fronting on Scappoose bay, an arm of the Columbia river. The plant produces a complete line of insulation board for residential and commercial construction, refrigeration units and other uses. It also turns out decorative board for interior finishing and acoustical products. Annual plant capacity is 118,000,000 square feet of equivalent ½-inch board products. Sales have been in the neighborhood of $5,500,000 annually. The plant has a payroll of about 425 persons.

Fir-Tex was organized and incorporated nearly 28 years ago and since that time has produced more than 1,770,000,000 board feet of insulation board. During the same 26 years of actual operation company officials estimated that the company had paid out more than $15,000,000 in payrolls.

Kaiser Gypsum, which is one of the companies making up the present Henry J. Kaiser industrial holdings, currently produces plaster, gypsum lath and wallboard for the seven western states with manufacturing plants at Seattle, Wash., and Antioch and Long Beach, Cal.

Oregon Particle Board Plant Progresses

• Activation of the new Particle board plant at Madras, Ore., awaits only the arrival of machinery.

According to Floyd Rapp, company president, the plant will probably be in operation soon after Jan. 1 producing a building material relatively new to the woodworking industry.

Rapp explained that the chip board can be turned out in colors. It will use planer shavings as raw material.

Equipment already installed, according to Rapp, includes a boiler, shaving drier, sander, air compressor, 21,000 gallon fuel oil tank, receiving conveyors, electric motors, miscellaneous articles and three 10,500 gallon resin and wax tanks.

International Meeting Set

• Next month in Geneva, Switzerland, hardboard and particle board specialists from all over the world will gather for the United Nations Food & Agriculture Organization's "international consultation". The meeting, set for Jan. 21 to Feb. 7, is intended to provide a better understanding of the technical and economic problems involved in the manufacture and application of these products.

Anyone interested in attending or presenting a paper should contact the FAO-Un at Viale delle Terme di Caracalla in Rome, Italy.

New Pilot Plant Opened

• Timber Engineering Co. (TECO) has formally opened the new particle board pilot plant at its Washington, D. C., headquarters.

This modern new plant is the only one of its kind in commercial or public laboratories in the U. S. or Canada. It is highly flexible in its operation and is fully "conveyorized". All kinds of platen-type wood particle boards can be produced at this plant. Facilities are also included for the testing and evaluating of platen and extrusion types of particle board.

National Starch Acquires Granite Board, Inc.

• The acquisition of Granite Board, Inc., Goffstown, New Hampshire, leading manufacturer of wood particle board, through the purchase of all outstanding capital stock, was announced in November by Frank Greenwall, president, National Starch Products, Inc., New York City.

Mr. Herbert A. Hermsdorf, president of Granite Board, will continue in that capacity with headquarters at Goffstown.

The marketing of Granite Board will be consolidated with National's Structural Products Dept., which now sells Wood-Lok vinyl emulsion glues, contact cements, epoxy resins, along with specially engineered laminating presses utilized in National's high speed gluing Kwik-Klamp Process.

Hardwood Association Holds Grading Session

A hardwood logger can make a profit with modern, efficient equipment; it is the logger with sub-standard equipment spending much time and money on repairs who is having a rough time of it.

These facts were brought out by James Faurot, Montana State University logging engineering instructor, in a discussion of logging methods in hardwood timber at the quarterly meeting of the Northwest Hardwood Association in Longview, Wash., Oct. 6. Eighty-six persons were on hand to mark the first anniversary of the NHA. The all-day technical meeting covered various other phases of hardwood lumbering.

Of particular interest to the hardwood men was the session on lumber grading, conducted by W. C. Niemeyer of Pacific Lumber Inspection Bureau. A grading supervisor, Niemeyer put on a demonstration with actual hardwood samples.

Dr. Don Clark, Institute of Forest Products and one of the original backers of the NHA, led a panel discussion on how to get more and better lumber from hardwood logs.

James Faurot and Prof. J. K. Pearce of University of Washington conducted the logging session. The organization also heard reports on taxation of bare land, freight rates, log grading and a possible future grading school.

Officers re-elected are: pres., E. J. Nist, Seattle Box Co., Seattle; vice pres., Hamlet P. Steele, Bellevue Dry Kilns, Bellevue, Wash.; treas., Harry P. Caldwell, Morton Lumber Co., Seattle; and, secretary, Harry O. Mitchell.

Three three-year directors elected are Paul A. Barber, Oregon Alder-Maple Co., Willamina, Ore.; John A. Hauberg, Jr., Pacific Denkmann Co., Seattle; Victor Nelson, Goodyear-Nelson Hardwood Co., Sedro-Woolley, Wash. A two-year director was also chosen; he is W. E. McPherson, Hallinan-Mackin Lumber Co., Portland.

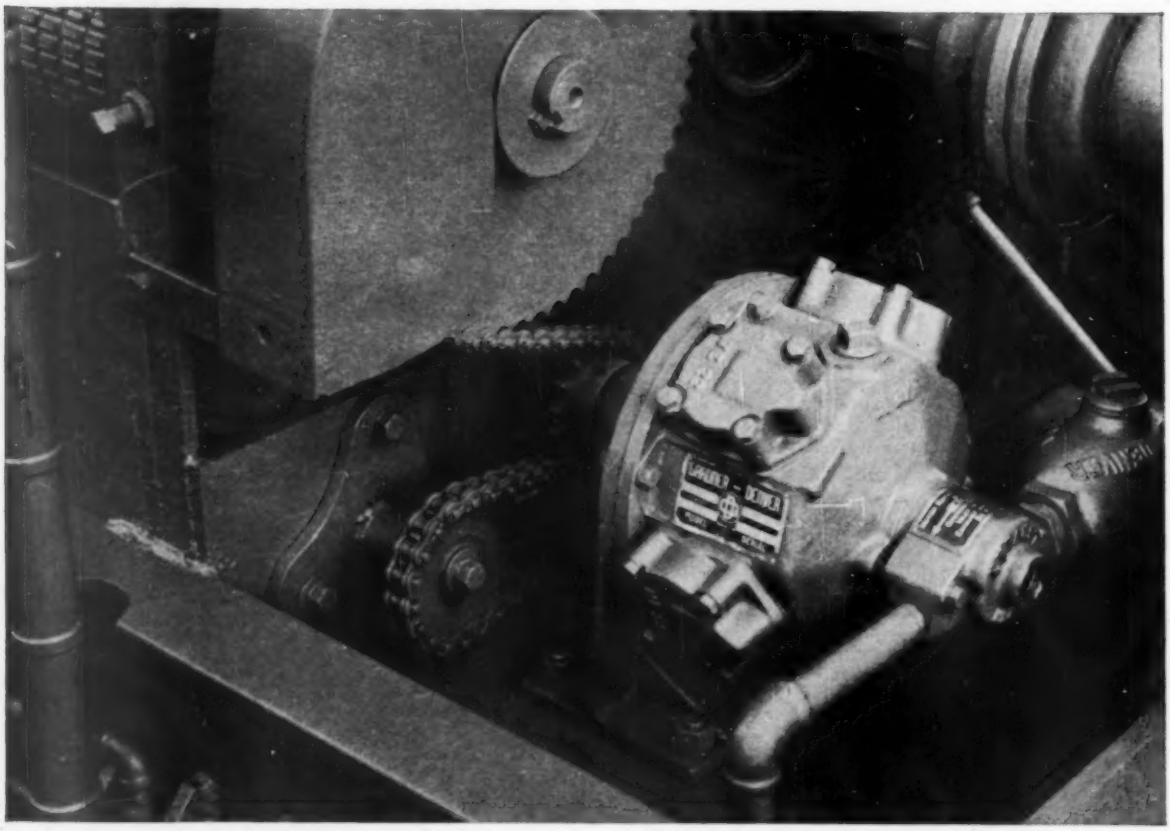
Kaiser Names Men

• Kaiser Gypsum Co. has appointed a new management team for its recently purchased insulating board plants at St. Helens, Ore.

Robert A. Costa has been appointed vice president and assistant general manager in charge of the newly created insulating board division of Kaiser Gypsum. Formerly merchandise manager for the company, he will maintain his offices at the firm's general headquarters in Oakland, Calif.

Ernest H. Schaper has been named the new resident operating manager of the St. Helens plants. Schaper has been transferred from his former position of plant superintendent at the company's gypsum board products plant at Antioch, Calif.

Gardner-Denver . . . Serving the World's Basic Industries



Gardner-Denver radial air motor—driving edger feed rolls. Note Gardner-Denver air line oiler, which helps lubricate the motor.

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Take this Gardner-Denver Air Motor—bulldog tenacity to stick at the job was built into it. No, sir, no one pampers this baby. It doesn't expect special treatment and you can say the same for any Gardner-Denver product.

Gardner-Denver Air Motors are adaptable to a wide range of service and may be the answer to your needs. Our engineers will gladly cooperate in the development of an application.

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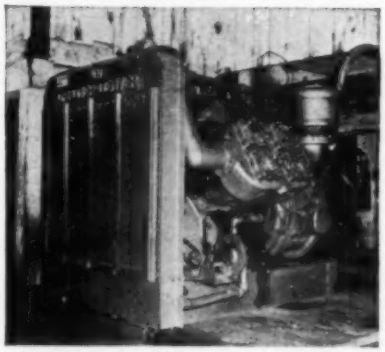

Another Gardner-Denver product mill men like. Model WB Compressor. Combination radiator inter-cooler saves on cooling water.

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The Standard Factory Equipment
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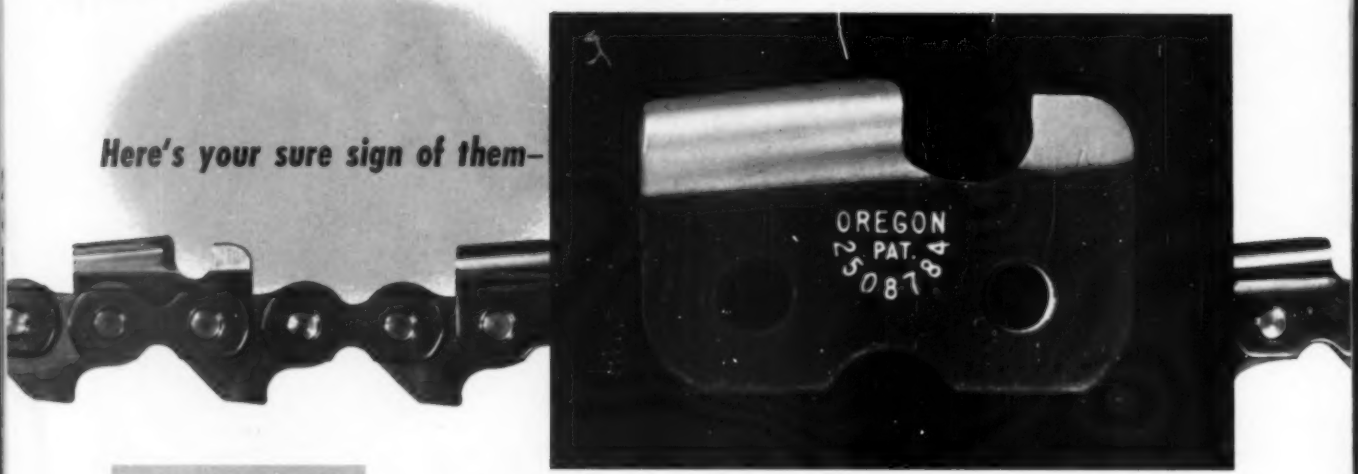
Built Right - Backed Right

The Important OREGON® *"Extra Links"*

Extra-big CUTTING PROFITS

Extra-long CHAIN LIFE

Here's your sure sign of them–



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The OREGON® trade-mark and patent number stamped into every genuine OREGON cutter are your sure sign that you'll get the important "extra links" which come to every OREGON chain user in the form of extra-big cutting profits and extra-long chain life.

OREGON 25087 **Built Right**

Profitable performance has been designed and built into every chain bearing the name OREGON. This quality chain is skillfully manufactured of special top-grade steel, will perform with lasting efficiency under the stresses of high speed, friction, abrasion and heat which are normal to cutting chain use.

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A qualified nationwide organization of OREGON Task Force Service Shops backs every OREGON Chain as long as it is in use. There is an OREGON Task Force Service Shop near you where qualified, OREGON-trained personnel can show you how to use and file your OREGON Chipper Chain to obtain extra-big cutting profits . . . can help you get extra-long chain life through proper use and maintenance.

OREGON 25087 **Extra Profits Extra Life**

You want extra-big cutting profits, extra-long life from your saw chain. Be sure you get them. Buy genuine OREGON Chipper Chain . . . the chain with the trade-mark OREGON stamped into every cutter . . . the chain that is built right, backed right . . . profit-making, long-lasting OREGON Chipper Chain.

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PORTLAND 22, OREGON

Built Right - Backed Right

"We are getting high production in rough country at very low cost with our International equipment," says Jesse Forrester, owner of S and F Lumber Company, Arcata, Calif. Company owns two International TD-24 crawler tractors, and because of their performance, has purchased a Galion T-600 Motor Grader, powered by a 141 hp International 140-D diesel engine, for haul road maintenance. "Each machine is perfect for the job it has to accomplish," he adds.

"I am loading logs as big and as fast as the next size larger machine of other makes... thanks to the powerful International UD-525 diesel engine in my Link Belt heel boom loader," says John Banusa, young contract logger for St. Paul-Tacoma Lumber Company, Tacoma, Wash. Unit handles big logs of up to 3,500 board feet.

A+ COMPLETE POWER PACKAGE INCLUDING: Crawler, Wheel, and Pipe-Boom Tractors... Self-Propelled Scrapers and Bottom-Dumps... Tractor and Rubber-Tired Loaders... Off Highway Trucks... Diesel and Carbureted Engines... Motor Trucks.

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In so doing, these loggers find that International's 54 years of engine design and manufacture pay off for them in many money-saving ways. They get the advantages of International's exclusive injection system design—precision fuel metering, timing and injection system design—smooth equal power from all cylinders—economy second to none! They get super-fast governor action, for big production with variable, as well as steady loads! They get positive, wear-fighting full-pressure lubrication, with full-flow filtering of all oil to working parts.

They get simple, long-life 4-cycle design for heavy-duty operation, superior lubrication and cooling, and for lower maintenance cost. And electric starting with inbuilt gasoline conversion system gives them sure, seconds-fast starts that gets the job going quicker in any weather.

Increase your production, get long life, low-cost dependable power with International Diesel Engines. Your International power unit Distributor or Dealer will show you how.

INTERNATIONAL® CONSTRUCTION EQUIPMENT

International Harvester Company
180 North Michigan Avenue, Chicago 1, Illinois

VHS Chokers and Arch Lines for EASIER HANDLING, LONGER LIFE

• New LAY-SET VHS, made from a new grade of steel for wire rope, is at least 15 per cent stronger than Improved Plow Steel—the strongest grade available before VHS.

HANDLES EASIER

This extra strength means you can often use smaller diameter lines for chokers and arch lines. These are easier to handle.

And when you add ACCO's patented DUALOC ending to the new VHS wire rope, you get a choker rope that choker setters swear by—not at!

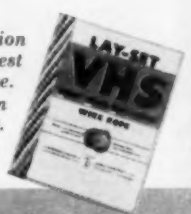
TOUGHER FOR LONGER LIFE

New LAY-SET VHS is also tougher . . . more wear-resistant. This extra strength means longer life for chokers and arch lines—cuts costs. And you make further savings by cutting the "down time" of equipment for wire rope replacement.

IN STOCK NOW

Your HAZARD distributor now has chokers and arch lines of new LAY-SET VHS. You don't need any complicated specifications—just tell him the size and diameter you want.

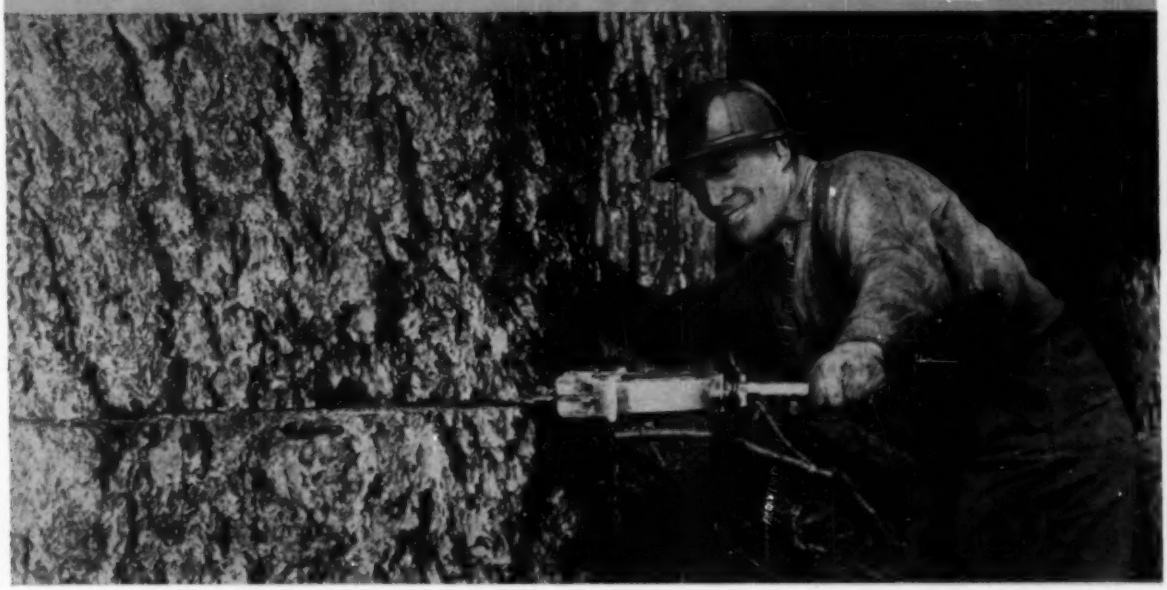
for further information write to the nearest Hazard office. Ask for Bulletin No. DH-490.



LAY-SET VHS 15% Stronger • Tougher •

HAZARD WIRE ROPE DIVISION
American Chain & Cable Company, Inc.
2210 N. W. Roosevelt St. Portland 10, Oregon
890 Tennessee St. San Francisco 7, Calif.
Wilkes-Barre, Pa., Atlanta, Chicago, Denver, Houston, Los Angeles, New York, Odessa, Tex., Philadelphia, Pittsburgh, Bridgeport, Conn.

Cuts costs as fast as it helps cut timber—the amazing Nicholson Round Smooth Cut Chain Saw file



Lumbermen agree that this file is the greatest aid to chain saw users in over a decade! The secret is in its tooth structure. The *double-cut* teeth are hollow-backed with slight negative face angle for velvety "bite" and extremely fast cutting. The *spiral* teeth are in continuous contact with your work for mirror-smooth cut without "chatter."

In action, this file finishes chain teeth to razor sharpness for fast, smooth, economical sawing and dresses teeth uniformly for long chain life.

Order your Nicholson Round Smooth Cut Chain Saw files by these sizes from your chain saw supplier:

3/16" diameter	**5/16" diameter**
7/32" diameter	**3/8" diameter**
1/4" diameter	**9/32" diameter**

NICHOLSON FILE COMPANY
Providence, Rhode Island
(In Canada: Nicholson File Company of Canada Ltd., Port Hope, Ontario)

NICHOLSON FILES *A FILE FOR EVERY PURPOSE*

TYPICAL GENERAL ELECTRIC AUTHORIZED SERVICE STATION is Lane's 2-Way Radio Service in New London, Conn. Owner Al Lane has been in electronics service for over 30 years—now provides maintenance for more than 200 customers' mobile units.

MOBILE TWO-WAY RADIO SERVICE SHOP, completely equipped, that Lane uses for fast, efficient servicing on two-way systems. Lane's preventive maintenance program includes monthly checks on all mobile and base station units—of all makes.

KEEP TWO-WAY RADIO SYSTEMS AT TOP EFFICIENCY WITH GENERAL ELECTRIC AUTHORIZED SERVICE

General Electric Authorized Service Stations are independent local businessmen, factory-trained to maintain your two-way radio system's full-time operating efficiency at the lowest possible cost.

Whether you now operate a two-way radio system, or are contemplating the installation of one, it will pay you to investigate the prompt, thorough and economical servicing programs offered by more than 500 General Electric Authorized Service Stations throughout the nation.

Like any investment, a communications system requires planned management to yield a satisfactory return. Such return on your two-way radio system requires planned *maintenance*. General Electric's Authorized Service Stations use experts, factory-trained to provide service that protects your investment by preventing loss of communication.

Licensed Experts. To be franchised as a General Electric Authorized Service Station, an independent operator must be fully licensed by the Federal Communications Commission to perform checks and maintenance on radio communication equipment. He must have the highest reputation in the community for fair dealing and good workmanship, and must carry adequate stocks of factory parts to assure quick repairs in emergencies.

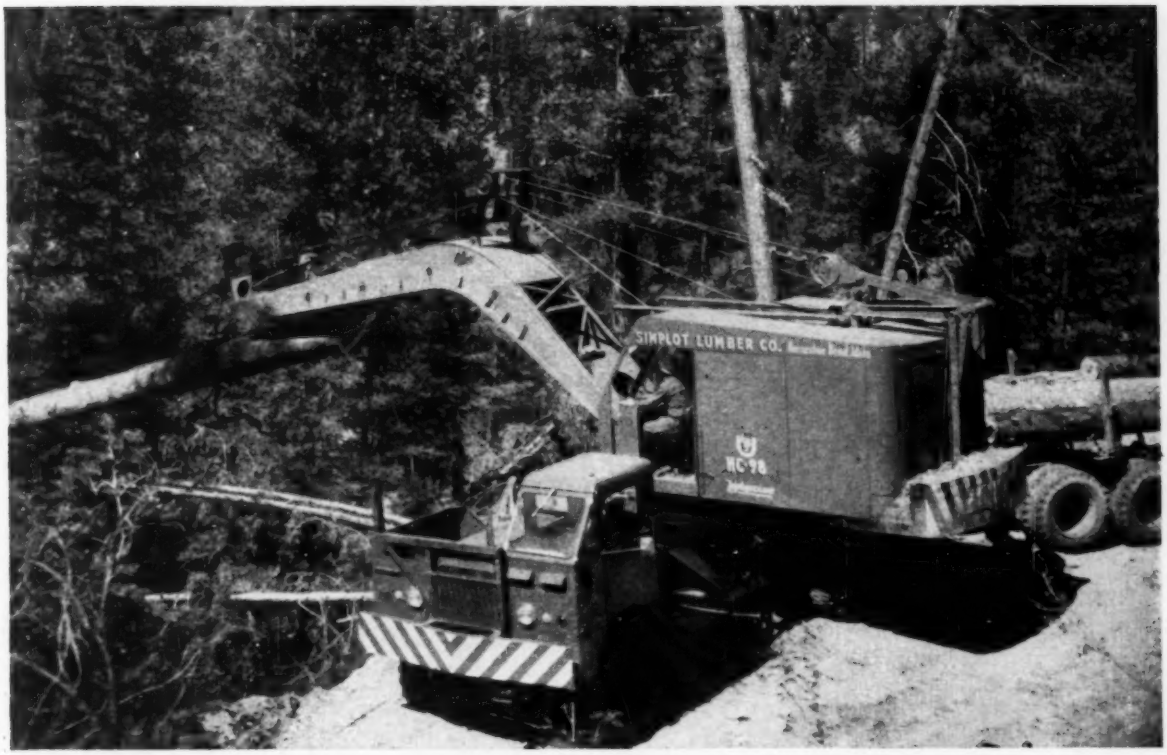
Once franchised, General Electric Authorized Service Stations are enrolled in a continuing program of service training. In addition to factory-training sessions, all stations are regularly supplied with latest maintenance instruction manuals, bulletins, and hints on servicing all makes of two-way radio equipment. Also, General Electric employs highly skilled Communications Engineers in major cities, experts who are immediately available to any independent Authorized Service Station, or customer, for consultation on any communication problem.

FOR SALES AND SERVICE see "Radio Communication Equipment" in your Yellow Pages. Or, write: *General Electric Co., Communication Equipment, Section X23126, Electronics Park, Syracuse, N.Y.* In Canada, write: *C.G.E. Electronics, 181 Lansdowne Avenue, Toronto.*

Progress Is Our Most Important Product

GENERAL ELECTRIC

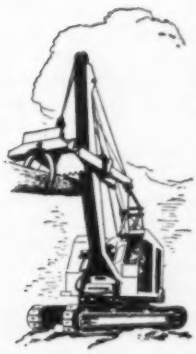
It's time to compare . . . with LINK-BELT SPEEDER



Link-Belt Speeder gives you up to

40% more usable horsepower

greater line pull . . . bonus power to hoist, swing and travel



Link-Belt Speeder log loaders are built to take full advantage of the "bonus" horsepower available in shovel-crane engines!

SIZE for size, a Link-Belt Speeder gives you more *usable* horsepower. You get more line pull, more power at the drums . . . more power to swing, hoist and travel. That's because a Link-Belt Speeder takes more power out of its engine!

You see, a Link-Belt Speeder is built with extra strength—strength to handle greater horsepower. Thus, the engine in a Link-Belt Speeder can be (and is) set to deliver the greater horsepower for which the machine is designed. Link-Belt Speeder gives you a bonus of up to *40% more usable horsepower than machines using the same make and model engine!* And, in every instance, the engine in a Link-Belt Speeder is run at speeds well within the manufacturer's recommendations.

How to compare

Your Link-Belt Speeder distributor will furnish complete specification information. Check sizes and materials in Link-Belt Speeder shovel-cranes that allow you to use the actual horsepower you are paying for. LINK-BELT SPEEDER CORPORATION, Cedar Rapids, Iowa. 14.273

LINK-BELT SPEEDER

Builders of a complete line of shovel-cranes . . . with exclusive Speed-o-Matic power hydraulic controls

Your Factory-Trained Sales and Service Specialists

WESTERN MACHINERY CO., Spokane, Wash.

HOWARD-COOPER CORP., Seattle, Wash., Portland, Eugene, Albany, Roseburg, Central Point, Coquille, Ore.

WESTERN EQUIPMENT CO., Boise, Twin Falls, Idaho

EDWARD R. BACON CO., San Francisco, Sacramento, Oakland, Fresno, Calif.

MONTANA POWDER & EQUIP. CO., Helena, Billings, Mont.

PURVES RITCHIE LIMITED, Vancouver, B.C.

From WOODS AND MILLS

Feather River Lumber Co., Reno, Nevada, has purchased the assets of the *Clover Valley Lumber Co.*, Loyalton, Calif., including sawmill, planing mills, dry kilns, box factory and logging railroad. Feather River Lumber Co., several months ago acquired the *Quincy Lumber Co.'s* properties at Sloat, Calif.

Emery Jones, sales manager of the *Wauna Lumber Co.*, Wauna, Oregon, died recently. He had been with the Wauna company since 1940.

Hugh Lamoreaux, forester for the *Valsetz Lumber Co.*, Enterprise, Ore., now has a new airplane.

Connley & Kroetch have built a sawmill at Harrison, Idaho. The mill will produce mostly dimension lumber. Its capacity will be about 35,000 feet per day.

The Sierra Pole & Piling Co., has acquired the plant of the former *Sierra Wood Products Co.*, Toyon, Calif. The plant will do mostly re-manufacturing. *David A. Grimes*, president of the company, states that a sawmill may be established.

Harold Turlay, manager of the *Uptegrove Lumber Co.*, Astoria, Ore., which has been producing thin spruce veneer for cigar boxes, recently announced that the plant will be closed permanently. Mr. Turlay stated that steadily rising costs and competition of paper boxes, makes it impossible for the Uptegrove company to continue the Astoria operation.

Georgia-Pacific Corp., has acquired the *Charles E. Sand Plywood Co.'s* distributing warehouses in the Portland, Ore., area.

Sidney B. Lewis has sold his interest in the *Mt. Jefferson Lumber Co.*, Lyons, Ore., to *Walter D. Miller* of Stayton. Mr. Lewis had been president and general manager.

Superior Shake Co., owned by *R. F. Drake*, has established a new shake mill at Concrete, Wash. This will be a two saw plant.

A firm known as the *Concrete Lumber Co.*, has set up a skragg mill at Van Horn, Wash. The plant was designed to cut mostly 16 foot two by fours. The owners are *Al Sabo* and *Orville Johnson* of Stanwood.

B. W. Lockwood, president of the *Lockwood Lumber Co.*, Seattle, died in late September in a Seattle hospital.

Stockholders of the *Standard Veneer & Timber Co.*, Crescent City, Calif., a co-operative, at a recent meeting amended the by-laws establishing an age ceiling of 55 on its workers. *E. N. Bailer* was re-elected president. Officers reported a "very satisfactory year".

Rain Forest Inc., Aberdeen, Wash., has installed baling equipment at its shingle mill to bale shingle tow, which is sold to dairymen and chicken raisers.

Larson Lumber Company's new sawmill near Corvallis, Oregon, is now nearing completion. Much machinery has been installed. This mill is expected to produce about 100,000 feet of lumber per day. *Gordon Larson* is president and Cliff Melby, vice-president. The plant will have a nine-foot band head rig.

Ralph Haskin of Forest Grove, Ore., has taken a contract to log 60,000,000 feet of timber in the Stevenson-Carson, Wash., area for the *Aberdeen Plywood Co.*, Aberdeen, Wash. Mr. Haskin has three years to log this timber.

Ed Zorn has succeeded *Fred West*, head filer of the *Creston Sawmills Ltd.*, Creston, B.C. Mr. West has retired.

A *National Labor Relations Board* examiner recently ruled in an Oregon case that employees in a logging operation cannot refuse to work because of fancied weather conditions. In this case the loggers claimed slippery conditions because of snow. The examiner said he found that other loggers had worked in that area that day.

Clay Brown has retired as manager of the *M & M* operations in Oregon recently merged with the *Simpson Logging Co.* Mr. Brown is president of the *Brown Timber Co.* of Portland, Ore.; manager of the *Fortune Sawmills*, Fortuna, Calif., and of the *Eureka Redwood Lumber Co.'s* distributing yard at Downey, Calif.

Melvin J. Merrill has joined the *Paul Bunyan Lumber Company* at Susanville, California. He will act as Assistant Sales Manager under *A. L. Kerper*. He was formerly associated with the *Ralph L. Smith Lumber Company* at Anderson, California.

One of the busiest logging centers in the West is the new dam and reservoir site in the upper Baker River Area above Concrete, Wash. Among the loggers who have been rushing operations before snow closes them down are *A. H. Boury*, Concrete; *Gordon Webber*, Hamilton; *Gustafson & Hobson* Logging Co., Concrete; *Scott Paper Co.*, Everett; *Puget Sound Pulp & Timber Co.*, Bellingham, Wash.; and *Everett Ply & Door Co.*, Everett, are among those who have purchased timber in this area. A lot of road building is in progress.

Northern Timber Products Co.'s box factory at Oroville, Wash., burned in late September with a loss estimated at upwards of $30,000.

Mt. Whitney Lumber Co., Johnsondale, Calif., has started construction of a 16-foot, 15-mile truck road to tap timber recently purchased in the Sequoia National Forest. The road is in the Salmon Creek region.

The Warrenton Shingle Co. will move its shingle mill from Independence, Ore., to a new site in the Coos Bay region.

Dawson & Warner Logging Co., contract logging for *Scott Lumber Co.*, is moving its headquarters from Anderson to Burney, Calif.

The Voll stud mill near McCann, Calif., was swept by fire in late September.

Quick action by fireman and company crews saved a major fire loss at *Hamilton Lumber Co.*, Missoula, Mont., Sept. 14. Sparks from a sawmill burner ignited a pile of lumber and before the blaze was brought under control, one million feet of lumber valued at $80,000 was destroyed. Buildings and much other lumber in the yard were saved.

Saw Filers' Conference

• Problems of the saw filer were discussed at the annual meeting of the Saw Filers Association of British Columbia in Nanaimo recently. Sessions were held at Malaspina Hotel, with an attendance of more than 100 delegates, most of them from Vancouver Island and lower mainland British Columbia mills, although the U. S. was represented.

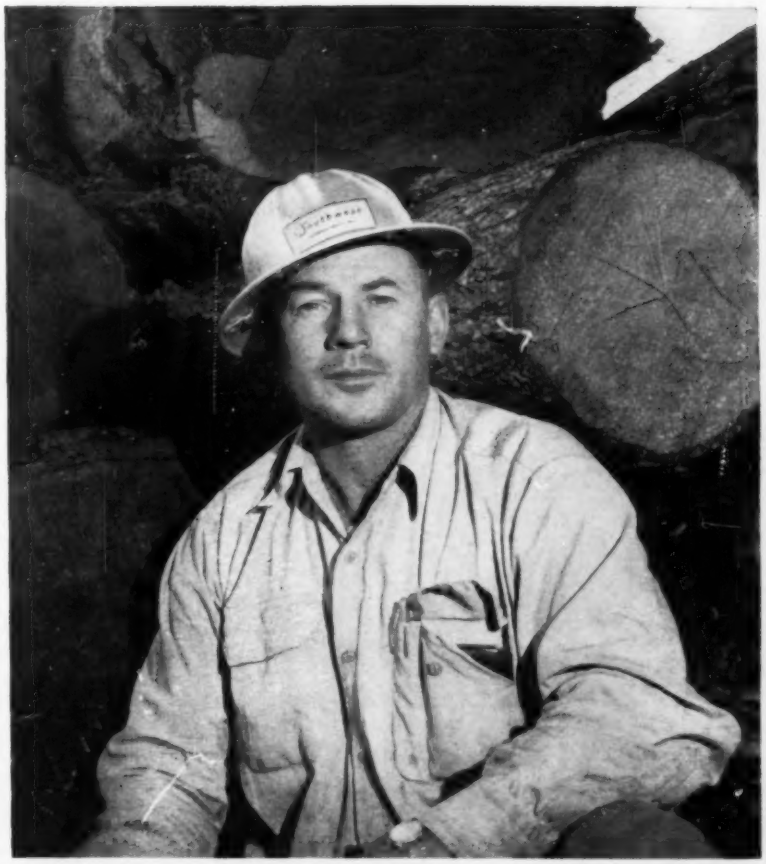
The new president is Jack Cathcart, head filer for Lion's Gate Lumber Co., North Vancouver, who succeeded Charles Malkin of M. B. King Lumber Co., North Vancouver. Vice president is Fred Cralr, head filer at Chemainus division MacMillan & Bloedel, who was formerly secretary. The new secretary is Harry McAllister of Victoria.

One of the principal addresses given was by E. G. Shorter, vice president production and forestry, MacMillan & Bloedel, who was followed by Bob Swanson of that company's Chemainus division. Mr. Shorter summarized recent developments in the sawmill industry, emphasized the important role being played by saw fillers in increasing the efficiency of mills, and Mr. Swanson told about some of the new technical advances in the filing room, steel treatment and vibration control.

Several of the principal saw manufacturing companies were represented at the meeting. This association, although a relatively new one, has been extremely active and has won growing support throughout the sawmills of the area.

Logging high and wide in Arizona

by Stewart Holbrook



Reared in Wyoming, Lyle Smith tried his hand at both mining and survey work before landing his first woods job in Oregon. Since 1951 he's been logging manager for Southwest Lumber Mills, Inc. near Maverick, Arizona.

Since 1951 Lyle Smith has bossed the woods for Southwest Lumber Mills at the company's operation near Maverick, Arizona, where about half of the timber is on Forest Service land, the remainder on the Apache Indian reservation. Together the two units comprise a logging empire of 3,800 square miles, an area larger than Delaware and Rhode Island combined.

It is a high-level show. Much of the timberline runs 8,000 feet above the sea, a fact which, when coupled with its remoteness from large population centers, precludes virtually any forest fire danger from tourists. Yet, on a single day last summer, right after a typical storm, Lyle Smith's lookouts reported 156 smokes rising from lightning strikes. It is probable that the region around Maverick has no equal in the number of fires touched off by nature.

For a good part of the logging year, Smith must devote as much attention to protection as to the harvesting of timbe... The record indicates he is equal to both tasks. The many fires have been controlled and meanwhile an average of more than 50 million feet of logs has gone annually to the mills.

Reared in Wyoming's Jackson Hole country, Lyle first thought he would follow in the footsteps of his father, a mining engineer. With this in mind he entered the University of Utah. Running out of money, he quit the course and with a partner started working an old mine in Idaho. When the vein petered out he joined a U. S. Geographic Survey party, from which he gained a respect for space and topography in eleven Western states. Then he entered the field he was to make his career.

Lyle's first woods job was piling brush in Oregon. His second was felling and bucking. He began to learn about rigging in a Shevlin, Hixon crew under Jack Meister, perhaps the most noted boss in Oregon's pine regions. During this period Lyle was one of a five-man crew needed to operate what was known, sardonically, as a Dow *portable* powersaw. It weighed, he recalls, not less than a ton, a machine not to be treated airily. When in 1951, the Shevlin, Hixon property was sold to the Brooks-Scanlon Lumber Company, Lyle left for Arizona to become logging manager for Southwest Lumber Mills, Inc.

While in Oregon, he married Rose Trowbridge. Of the four Smith children, the eldest son, Dean, is currently a student at Arizona State college. Between terms he drives a logging truck.

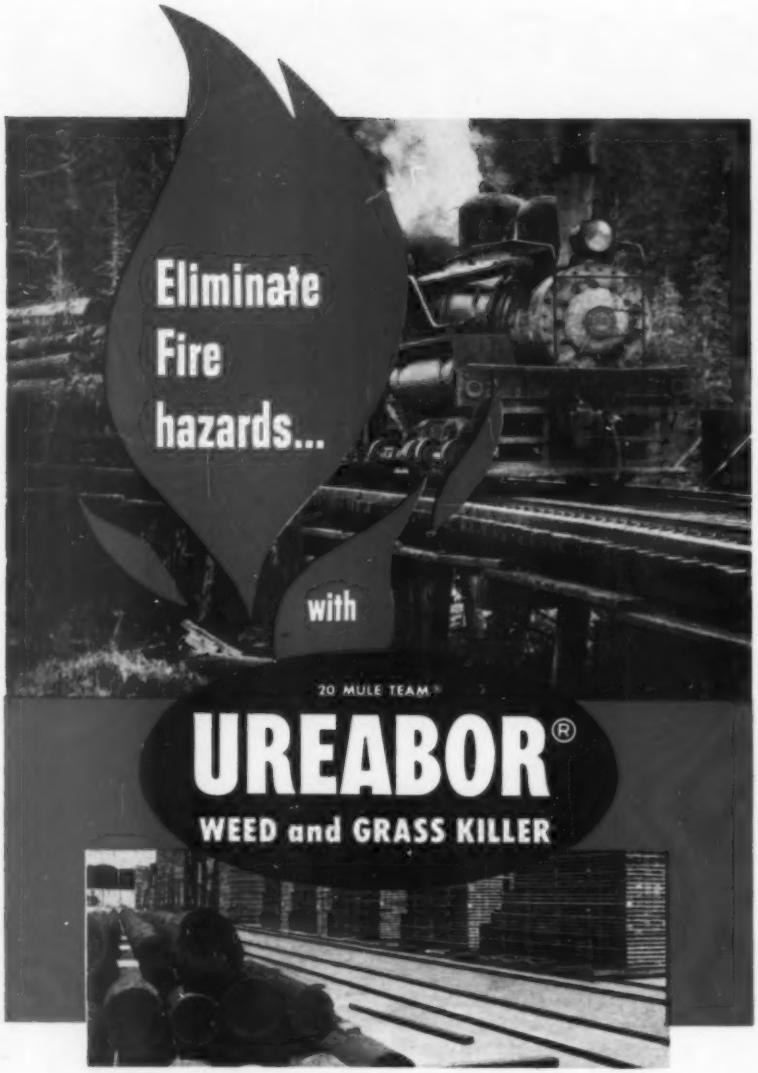
Now forty-six years old, with 185 well distributed pounds on his 5-feet-10½-inch frame, Logging Boss Smith retains the athlete's figure acquired in his school days, when he starred in the 440-yard run, and boxed well enough to fight periodically for money to help with his college expenses.

Having the right wire rope for the job goes a long way towards getting long and economical service. There is no such thing as an all-purpose rope. For each job in logging there is a particular combination of size, grade, and construction that will give you maximum performance.

Our rope engineers have had a lot of experience in selecting wire ropes for logging equipment. Our advice costs you nothing, but it may reduce your rope replacement costs.

Ask your dealer for full details on our Purple Strand—or any other logging ropes in the Bethlehem line. There are none better.

BETHLEHEM PACIFIC COAST STEEL CORPORATION



UREABOR is your easiest way to destroy weed hazards safely and economically! You get full season control of both broadleaf weeds and grass from a single application. This dust-free granular weed killer is applied DRY—there is nothing to mix ...no water to haul. It is safe to use anywhere; is nonvolatile, nonflammable and noncorrosive to ferrous metals.

UREABOR is concentrated; it combines the plant-destroying action of sodium borates and substituted urea. Only 1 to 2 lbs. per 100 sq. ft. is required for effective control! This low rate is quickly and uniformly applied with a special spreader available for $10.75 delivered, anywhere in the U.S.A. The PCB Spreader is light-weight and sturdy—holds enough UREABOR to treat 2500 sq. ft. at the 1-lb. rate without refilling.

• ***Write today for Service Bulletin 15-W***

United States Borax & Chemical Corporation
PACIFIC COAST BORAX COMPANY DIVISION
630 SHATTO PLACE, LOS ANGELES 5, CALIFORNIA

Kiln Clubs Meet

• The regular meetings of the Central California Dry Kiln Club and the Southern Oregon-Northern California Dry Kiln Club were held jointly at the McCloud River Lumber Co., McCloud, Calif., September 7 with Heber Radcliffe, kiln superintendent as host.

A. C. Knauss, of the Pacific Northwest Experiment Station, Portland, reported on "Degrade in Ponderosa Pine at Lakeview in Eastern Oregon." The log-grade study included 588 logs with a gross log scale of 320,230 bd. ft. Lumber from these logs was tallied through the mill, kilns, and remanufacturing into cars.

Degrade due to drying was measured after kiln drying the lumber in commercial kilns using accepted production drying schedules. B&Btr. grade suffered 31.6% seasoning defects, mostly in the form of checks and warp. C Select through Molding also suffered serious degrade from these two causes. No. 3 Clear through No. 3 Shop was degraded to a lesser extent. Here the loss was due mostly to warp and brown stain. The study points up the desirability of segregating these grades for kiln drying so that degrade can be reduced.

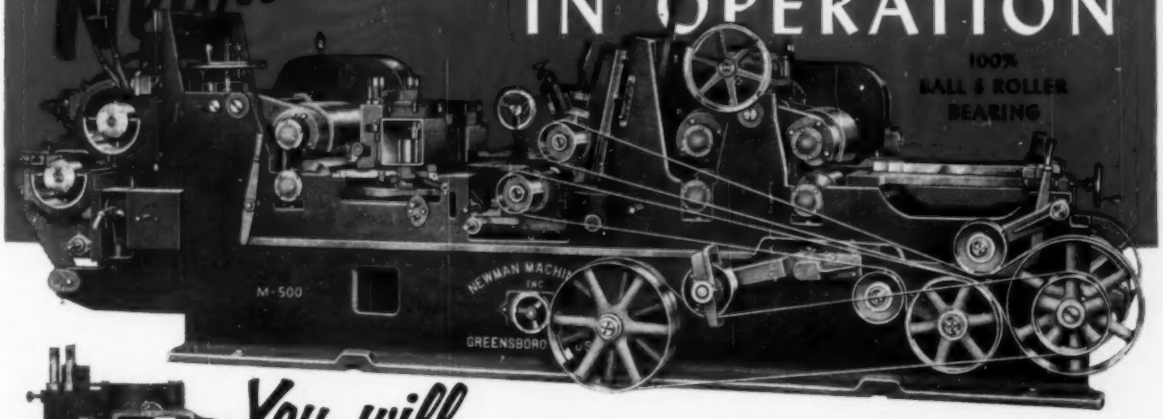
Dr. Albert Stout, Western Pine Association, reported on "Bundled Logs, Advantages and Disadvantages." Considered in the study were the effects of log storage on (1) blue stain, (2) brown stain, (3) end check, (4) insect attack, and (5) non uniformity of moisture content.

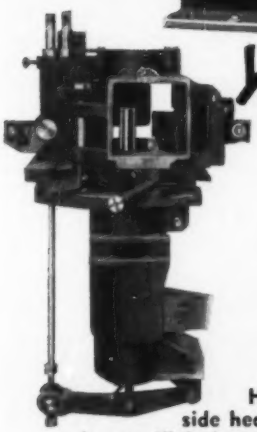
Several types of storage were considered: (1) Cold deck, (2) cold deck with sprinkling, (3) pond storage, and (4) banded pond storage, and (5) banded pond storage with sprinkling. In general, cold decking logs contributes to all 5 forms of log degrade. Cold-decking with sprinkling and pond storage reduces all 5, as compared to cold decking. Pond storage, however, required much storage area. Banded pond storage greatly increases pond storage capacity without objectionable increase in any of the 5 forms of degrade, and greatly helps with the problem of sinker logs. Strapping costs 50c to 75c per M Bd. ft. log measure, depending on the type of strapping required. Pond storage of bundled logs, plus sprinkling appears to reduce log degrade due to brown stain and improves the uniformity of moisture content (reduces drying of the portion of logs above water). Sprinkling cools and aeriates the water.

Redwood Research Announced

• Simpson Redwood Company and the U. S. Forest Service will soon launch a broad-scale cooperative research project seeking answers to forest management problems in redwood and Douglas-fir timber of northwestern California.

1017 Newman 500 PLANERS & MATCHERS IN OPERATION





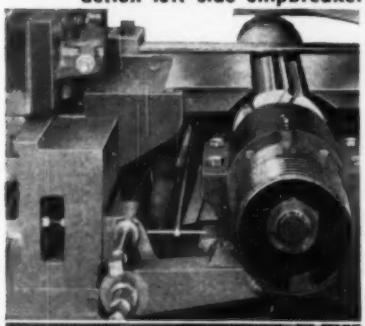
You will want the new M-500 with these FEATURES

- All Sprockets steel—heat treated
- Flame hardened bottom bed plates and pressure bar
- Feed works reversible
- Wear resistant rigid solid steel long guide
- Chatterproof jointer units
- Simultaneous roll raising device for front bottom feed rolls available
- Quick release for left side head available
- Roller knife setting gauge available

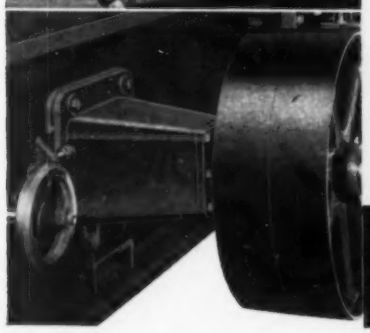
Feeds to 200 F.P.M.

Delivery from Stock If You Hurry

Heavy duty side head units of long quill design with double action left side chipbreaker



Massive vibration free bed plate after bottom cylinder



Hand wheel for adjusting bottom cylinder, also sturdy support for feed shaft.

Newman Machine Co., Inc.
GREENSBORO, NORTH CAROLINA, U. S. A.

TYDOL HD *makes the difference in performance*

SMOOTH PERFORMANCE...on the hills and highways...with TYDOL HD Motor Oil. With fast-acting detergency—balanced for every service condition—TYDOL HD gets rid of sludge and grime...frees sticky valves and rings...cuts engine wear...keeps engines clean and powerful. TYDOL HD makes a big difference where it counts—in performance—because it cleans...as it protects...as it lubricates!

The RIGHT OIL for every service condition

TYDOL HD... *high detergency for any engine in normal heavy duty operation.*

TYDOL HD S-1... *higher detergency for stop-and-go service or continuous heavy loads.*

TYDOL HD S-2... *highest detergency for hard, heavy diesel service in extreme operating conditions.*

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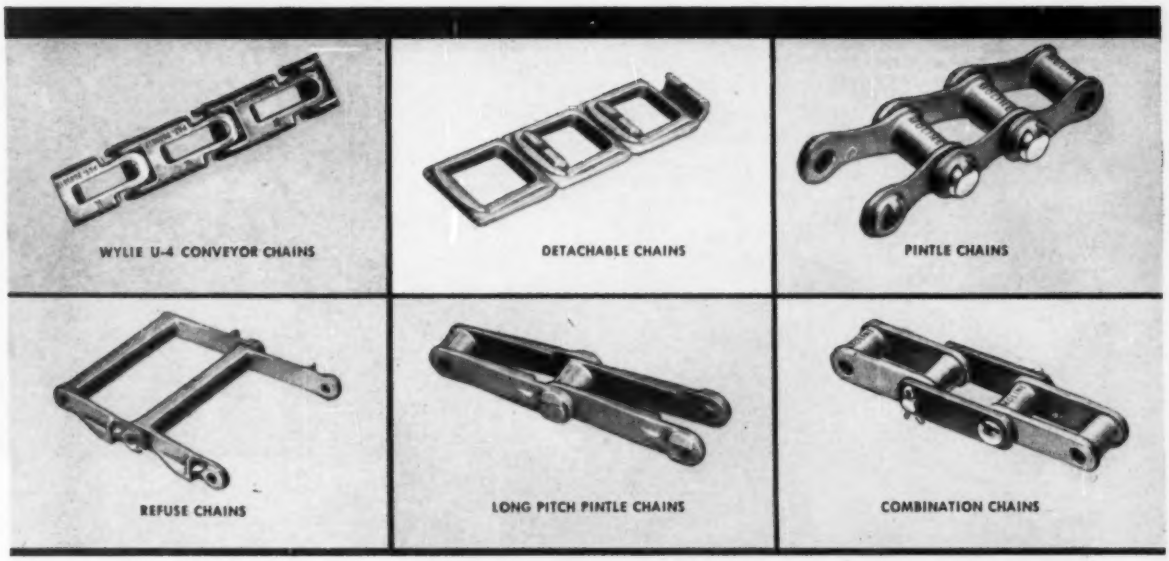
Moline *makes just one thing– the world's finest Malleable chain*

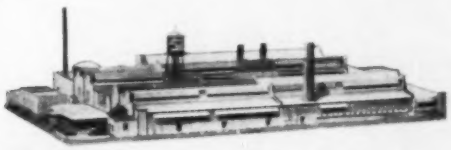


for conveying, elevating and power transmission

SPECIALIZATION makes the difference in Moline Malleable Chain. More than 60 years' concentration on the production of chain makes Moline the chain experts. Moline engineers and technicians confine their efforts to improving chain design and manufacture and to the refinement of production facilities within Moline's two large plants.

That's why you can be absolutely certain that every link bearing the name Moline will give maximum performance and long life... in conveying, elevating and power transmission services.

Specify Moline Chain, malleable or promal, for your equipment. Write today for catalog.



THE HOME OF TRIPLE TESTING!

This completely modern foundry—one of Moline's two large plants—houses fully mechanized production lines and Moline's famous triple testing facilities. Link by link, strand by strand, Moline chains undergo rigid physical testing. They are visually inspected and gauged by experts before being assembled, then stressed to proof strength and shock tested for soundness.

Moline Chains

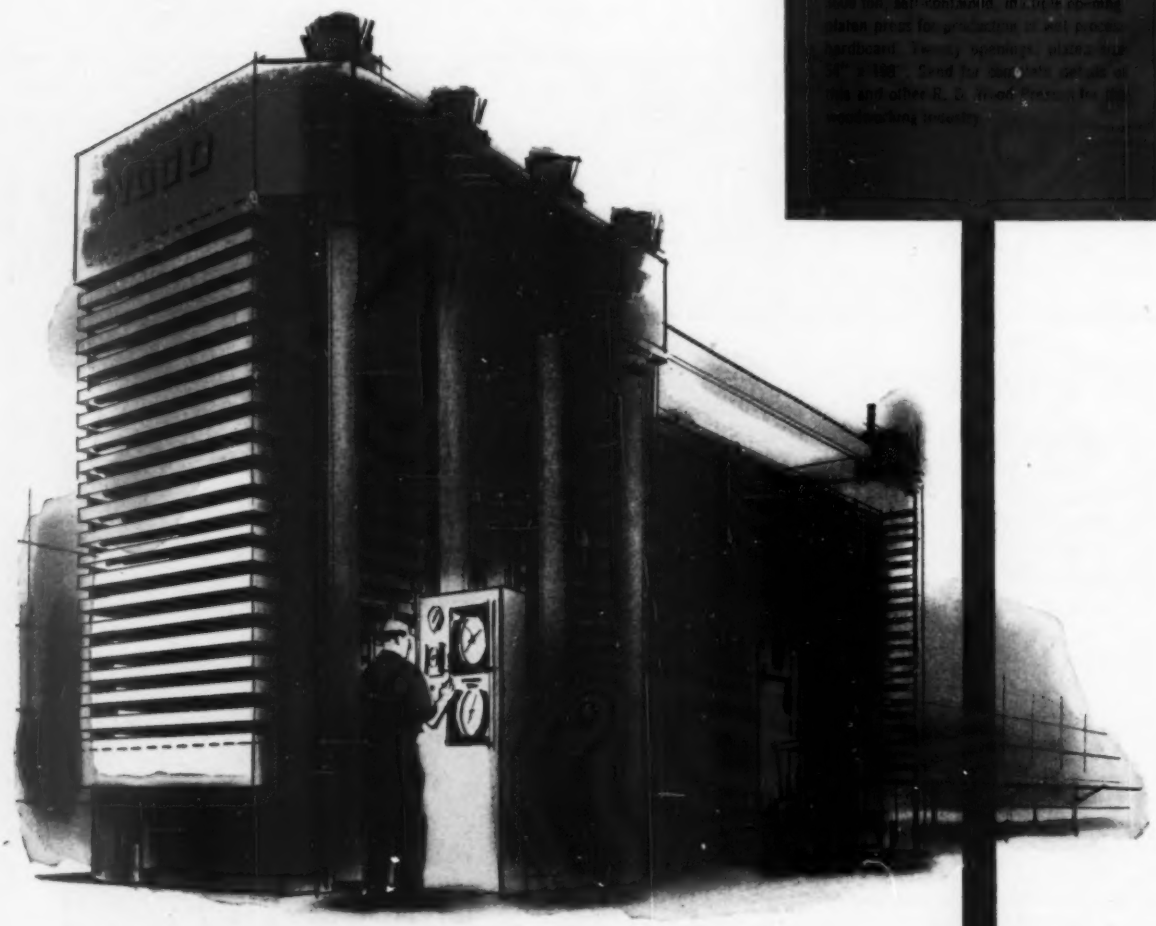
MOLINE MALLEABLE IRON CO.
ST. CHARLES, ILLINOIS

LEADERS FOR 60 YEARS

Specializing in the manufacture of chain

There's always a job for a Wood Press . . . and a Wood Press to do the job

When you want a production shortcut—when downtime and costs need trimming—there's a job for a Wood Press. And in almost every type of woodworking operation, there's a Wood Press to do the job. R. D. Wood builds presses for producing hardboard, composition building boards, veneer, plywood and pressed wood—besides designing and constructing others for special work. All have three things in common: sound design, carefully selected materials, conscientious workmanship. As a result, R. D. Wood Presses consistently deliver the utmost in smooth, dependable performance; fast, economical production; trouble-free operation. Write for catalog and engineering information—without obligation.



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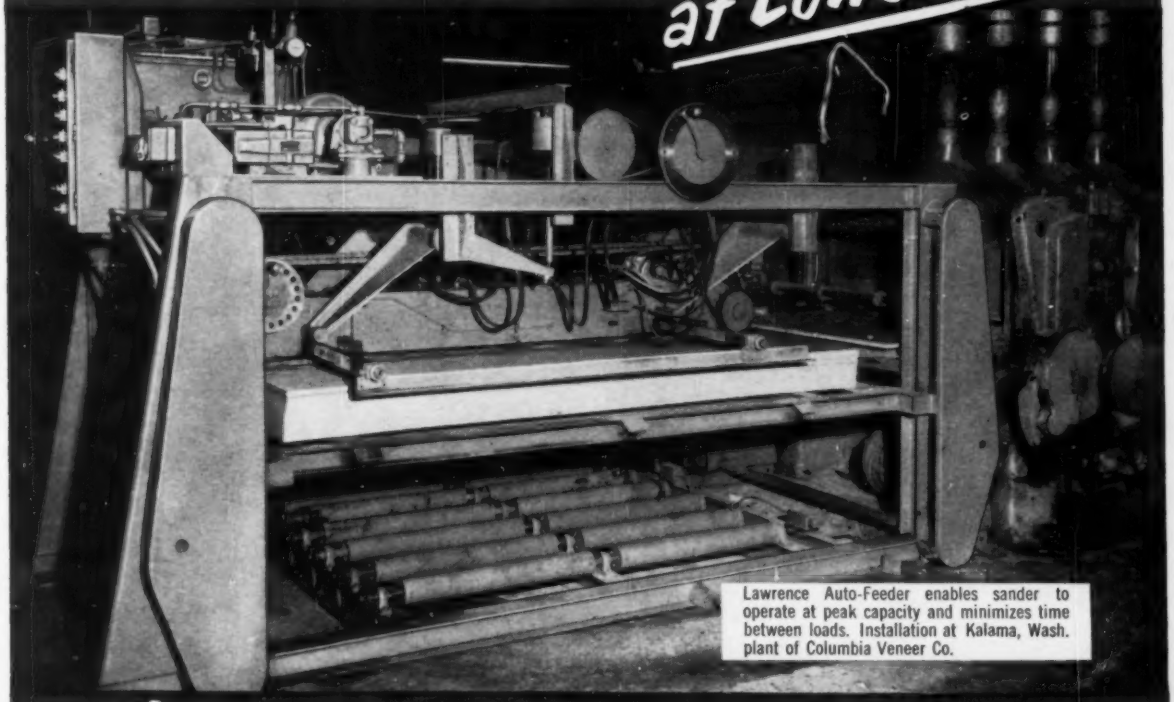
PUBLIC LEDGER BUILDING • PHILADELPHIA 5, PENNSYLVANIA

Representatives in Principal Cities

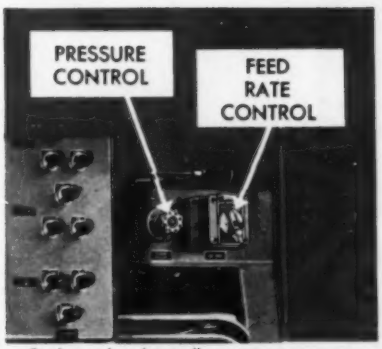
MAKERS OF HYDRAULIC PRESSES AND VALVES • FIRE HYDRANTS • CAST-IRON PIPE • GATE VALVES • GAS PRODUCERS • ACCUMULATORS

More PLYWOOD at Lower Cost



Lawrence Auto-Feeder enables sander to operate at peak capacity and minimizes time between loads. Installation at Kalama, Wash. plant of Columbia Veneer Co.

with LAWRENCE AUTO-FEEDER using VICKERS® HYDRAULICS



Feed speed and crowding pressure are predetermined and easily adjustable . . . so that panels are butted just before entering sander.

Equipped with Vickers Hydraulics for lifting the packages of plywood and automatically squaring and feeding the individual panels into the sander, this Lawrence Auto-Feeder keeps plywood panels moving through the drum sander at top capacity.

This automatic feeder has also made substantial savings in feeding a skinner saw. It is equally applicable in particle and hardboard plants . . . in fact on any operation using automatic de-stacking and feeding.

The use of Vickers Hydraulics is growing rapidly in the logging, lumber and plywood industries because of these important advantages: high speed operation, exceptional versatility, built-in overload protection, flexibility of control, simplicity of installation, and low maintenance. For additional information about the many benefits you get from Vickers Hydraulics, write the nearest office.

VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
ADMINISTRATIVE and ENGINEERING CENTER
Department 1350 • Detroit 32, Michigan

West Coast Plant & Office
2360 E. Imperial Highway • El Segundo, Calif.
Northwest Office & Warehouse
623 Eighth Ave., South • Seattle 4, Wash.

COMPLETE POWER UNITS AND WAREHOUSE STOCKS AT EL SEGUNDO AND SEATTLE

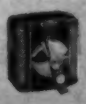
7139

STANDARD VICKERS UNITS USED ON LAWRENCE AUTO-FEEDER

Vane Type Double Pump

Solenoid Controlled Pilot-Operated Four-Way Valve

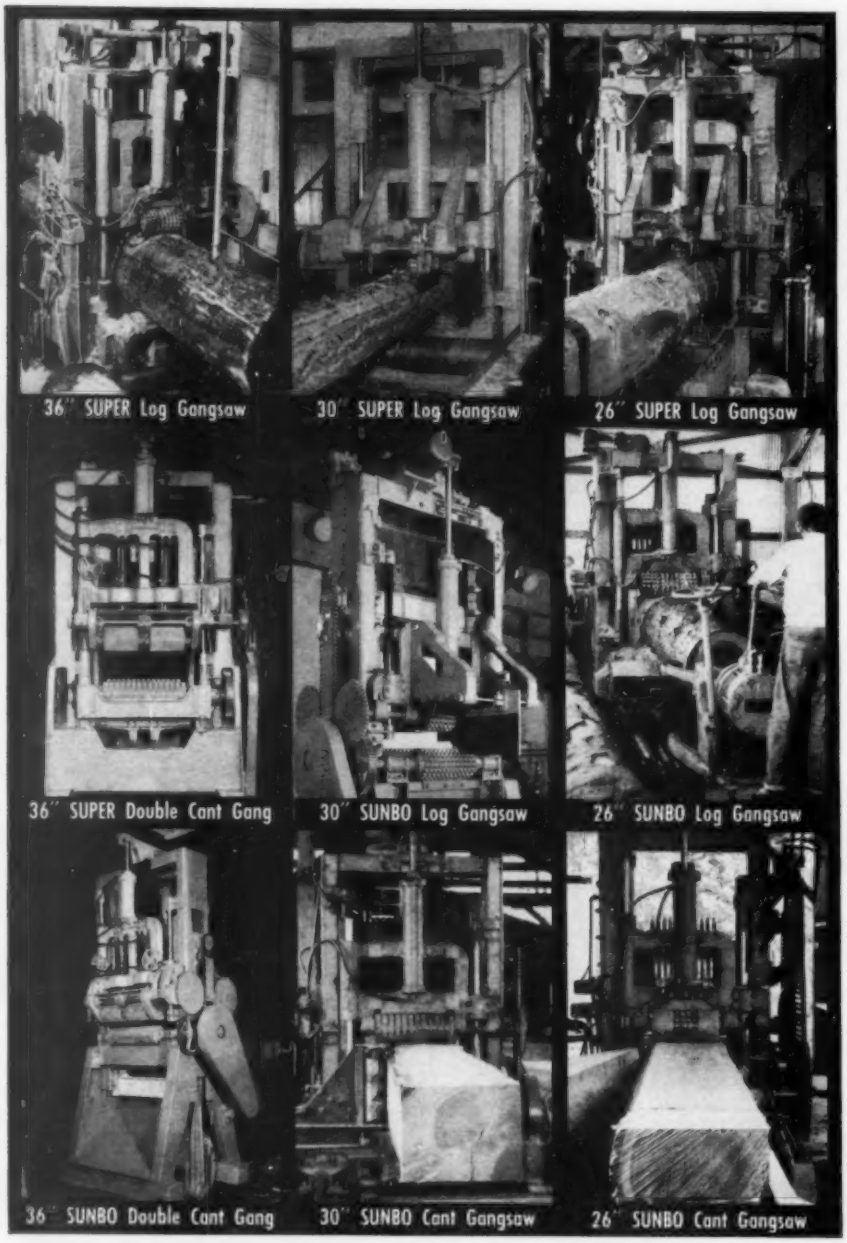
Vane Type Motor

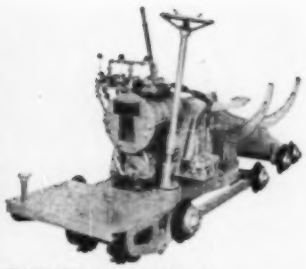

Flow Control Valve

Solenoid Operated Four-Way Valve

In-Line Check Valve

ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921


36" SUPER Log Gangsaw
30" SUPER Log Gangsaw
26" SUPER Log Gangsaw
36" SUPER Double Cant Gang
30" SUNBO Log Gangsaw
26" SUNBO Log Gangsaw
36" SUNBO Double Cant Gang
30" SUNBO Cant Gangsaw
26" SUNBO Cant Gangsaw



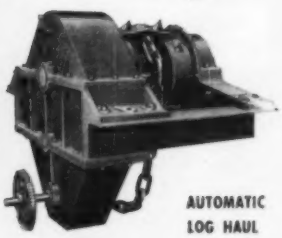
AIR-OPERATED INFEED CARRIAGE

ROLLS AND TRANSFER SKIDS

LOG KICKER

LOG STOP AND LOADER

CANT ROLLER CASE



AUTOMATIC LOG HAUL

Here is the Key to your Future!

When you invest in Mill Engineering gangsaw equipment you're buying a lifetime of cost saving, high profit production. Simple, rugged construction plus many exclusive patented design features enable the SUNBO or SUPER to out-produce under the most severe test of time and heavy use. Automatic overhang, too! Write or wire today for complete costs and production figures.

MILL ENGINEERING & SUPPLY CO.

3311 FIRST AVE. SO.
SEATTLE 4, WASHINGTON
Phone: SE 1034-1035

SALES REPRESENTATIVES — ***California:*** IDACO ENGINEERING CO., 3200 Peralta Street, Oakland 8, California; ***Oregon:*** CROWN MACHINERY & SUPPLY CO., 1805 N.W. Thurman, Portland 9, Oregon; ***South and East:*** WILCO MACHINE WORKS, 1301 North Hollywood Street, Memphis 8, Tennessee

Euclid TD Log Hauler with loads up to 27,000 board feet makes two 80-mile round trips daily for Loveness Lumber

YOU'LL FIND "EUCS"

BEST ON THE LONG HAUL, TOO!

Long haul or short haul, Euclid Log Haulers are specially designed and built for severe service off-highway hauling of bigger payloads at lower cost. Two sizes are available to meet your needs —Model R-15 for use with 10 to 12 ft. bunks and Model TD designed for 12 to 14 ft. bunks.

Loveness Lumber Company of Canby, California, is using the Model TD "Euc" with 300 h.p. diesel engine and Torqmatic Drive to make the 40-mile haul from landing to saw mill twice daily. Loveness reports this "Euc", with 14 ft. bunks, handles 27,000 board feet of pine or 17,000 board feet of heavy fir per load.

For helpful facts and figures on how Euclid equipment can speed up log hauling and cut road building costs, see or write your nearby Euclid dealer. He'll be glad to help you with complete information on the models best for your particular operation . . . can show you why ***Euclids are your best investment.***

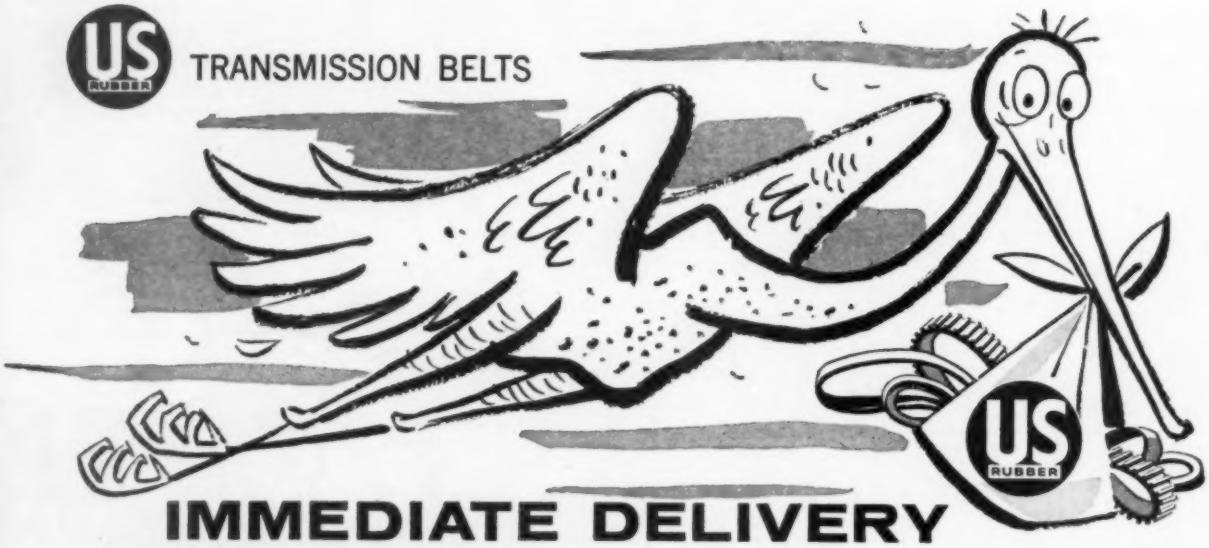
EUCLID SCRAPER "PAVES THE WAY" FOR LOG HAULER

In the White Horse, California area, Loveness utilizes a "Euc" S-18 Scraper with 21 yards heaped capacity to spread 8" of surface material on haul roads. With 300 h.p. engine and Torqmatic Drive, this "Euc" provides sure, smooth power, plenty of speed and exceptional maneuverability.

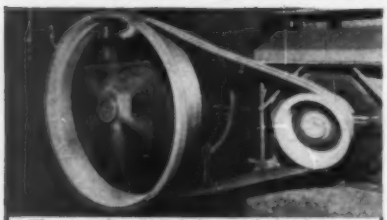
Euclid Equipment

FOR LOGGING, CONSTRUCTION AND MINING

US RUBBER TRANSMISSION BELTS



IMMEDIATE DELIVERY



The complete V-Belt line includes famous U.S. Rainbow®, U.S. Royal Super-Service, and fractional horsepower belts (made by the error-proof Electronic Tension method to eliminate vibration, increase service life).

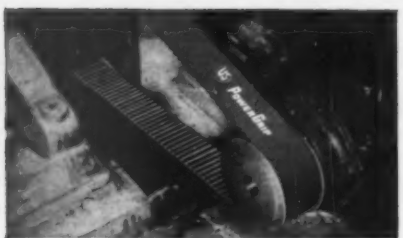
from a Complete Line

FLAT BELTS
V-BELTS
TIMING BELTS
All Sheaves and Pulleys

"U.S." is really geared to deliver. You really get immediate delivery or shipment—thanks to your local "U.S." distributor backed by the strategically located District Sales Offices and transcontinental chain of warehouses. The "U.S." Transmission Line includes flat belts and belting, V-belts, sheaves, and PowerGrip "Timing"® Belts and pulleys for any power transmission need.

These belts, sheaves and pulleys—plus expert engineering assistance by power transmission specialists—are available at "U.S." power transmission distributors, any of our 28 District Sales Offices, or write us at Rockefeller Center, New York 20, N. Y.

"U.S." Flat Belts come in special cord-constructed endless lengths or in duck roll belting. "U.S." production techniques guarantee *quality* performance.



The PowerGrip "Timing" Belt was awarded the Franklin Institute's 1955 Longstreth Medal—for "invention of high order." By providing near-100% efficiency in positive, non-slip, split-second timing, it has become standard equipment in a wide variety of machines and appliances.

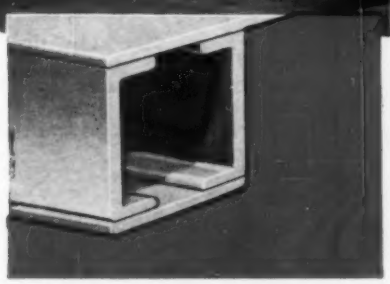
V-Belt Sheaves and "TIMING" Belt Pulleys

are tested for static balance and engineered to deliver the high durability and efficiency that are built into every "U.S." Belt.

US RUBBER Mechanical Goods Division

United States Rubber

SAVES $10,000 to $20,000 PER SHIP LOADING!



Sectional view of Gerlinger structural steel frame

Designed with box construction, braced with channel cross members at front and rear, with heavy intermediate cross members for maximum strength, perfect alignment and long life.

GERLINGER Fleet "Job-Proved" For POPE & TABOT Fleet

6 Gerlinger Material Carriers x 7 million board feet x 32 ships a year . . . quite a figure for the Pope & Talbot Lumber yard at St. Helens, Oregon, *but certainly no problem.* The Gerlingers solved that!

Here's why H. J. Olsen, plant manager, is so enthusiastic: "We ship lumber all over the world and began using Gerlingers with our new process of packaging lumber to speed up loading. Today we are cutting 5 to 10 days off of Pope & Talbot's own fleet turn arounds (round trip via Panama Canal from Oregon to East Coast ports and return) . . . a real savings when it costs approximately $2,000 a day to operate a lumber vessel."

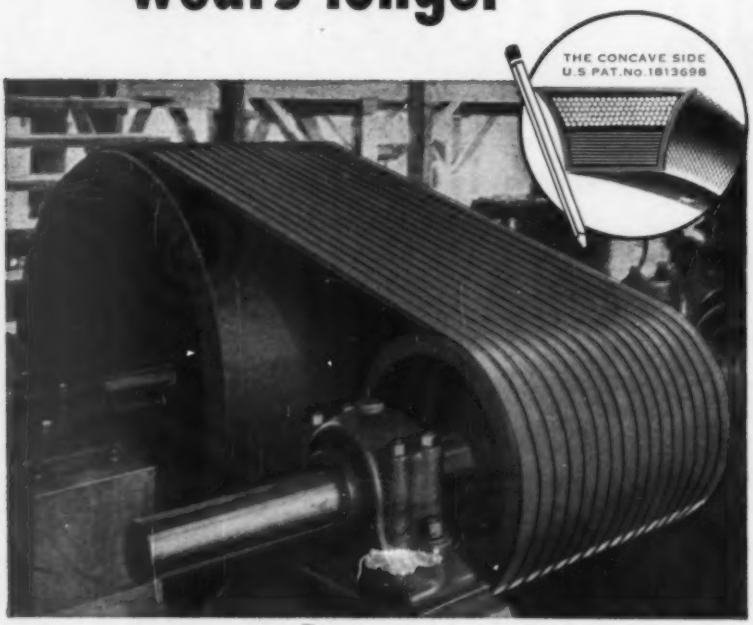
GERLINGER CARRIER COMPANY
DEPT. T-6 • DALLAS, OREGON

Please send FREE
Gerlinger Material Carrier Catalog ☐
Gerlinger Fork Lift Truck Catalog ☐

Name_____ Title_____
Firm_____
Address_____
City_____ Zone_____
State_____

GERLINGER PRODUCTS

Why a V-Belt with CONCAVE SIDES wears longer



It is easy to demonstrate to yourself why the concave sides (Fig. 1) of the Gates belt greatly lengthen belt life.

Simply bend a Gates belt and feel the sides. Notice how these precisely engineered concave sides *fill out* on the bend and *become straight*. Thus a Gates belt grips the sheave groove evenly (Fig. 1-A) and wear is distributed uniformly across each side of the belt. That means longer belt life; lower costs.

Make the same test with a straight-sided belt (Fig. 2) and see what happens. The sides bulge out on the bend (Fig. 2-A) concentrating the wear at points shown by arrows.

To assure longer wear and keep belt costs down, specify the V-belt with Concave sides—Gates Vulco Rope . . . readily available from nearby distributor stocks. The Gates Rubber Company, Denver, Colorado—*World's Largest Maker of V-Belts.*

There are Gates Engineering Offices and Distributor Stocks in all industrial centers of the United States and Canada, and in 70 other countries throughout the world.

TPA 90

Gates VULCO ROPE Drives

More Cooperation Urged

More effective partnership between the Canadian government, industry and the public in matters relating to forest administration was urged at the National Forestry Conference in Winnipeg.

A committee representing all three groups will be formed to work out details of a program designed to bring about closer coordination of the various agencies concerned with all phases of the forest industry and the timber resource.

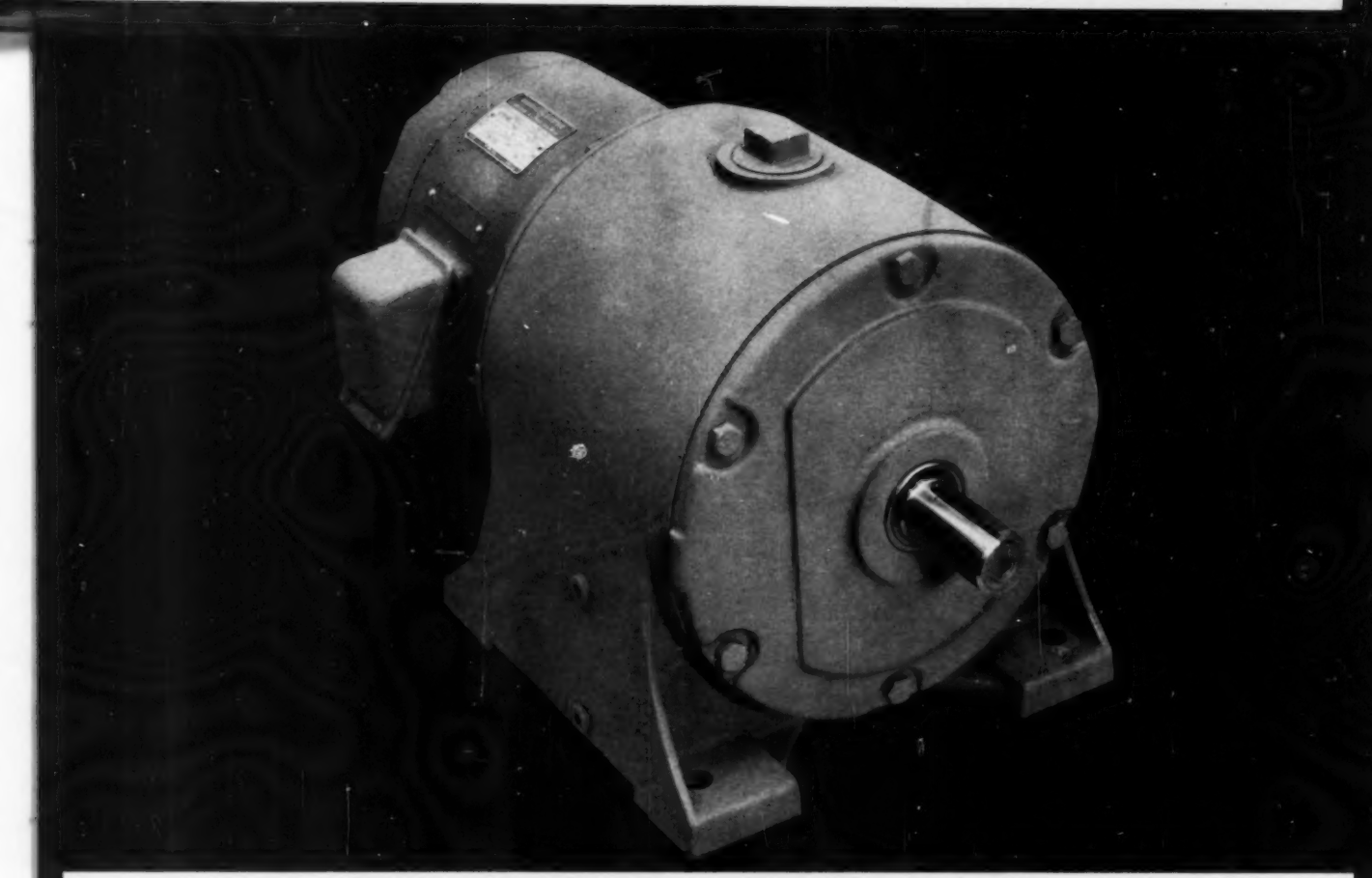
Such a committee was formally proposed by the Canadian Institute of Forestry and it was presented by W.A.E. Pepler, manager of the woodlands division, Canadian Pulp & Paper Association, Montreal, a past president of the institute.

Lack of co-operation in the past has been blamed on a complexity of legal, financial and political problems rather than technical matters. The scientifically managed forest is not far off if a working partnership between the major interests concerned is effected, Lowell Besley, formerly head of the University of British Columbia's forestry department and now with the Pulp & Paper Research Institute of Canada, told the congress. M. J. Foley, president of Powell River Co., said that real progress in forest management in Canada depended on an extension of the tree farm movement and a greater public consciousness of the value of the nation's forest wealth.

Dr. C. D. Orchard, deputy minister of forests in British Columbia, deplored apathy towards forestry and reported that in his own timber-rich province fewer than 300 persons had graduated from Canadian forestry schools since 1909. "We would hire 50 foresters during the next six months if we could find them", said Dr. Orchard, who added that there are 150 jobs in forestry available every year in British Columbia.

Talkie-Tooter Approval Is Expected Soon From FCC

• The proposal of the Federal Communications Commission to amend its rules to permit the use of Talkie-Tooters for signaling a yarding operations has received overwhelmingly favorable comment by all parties filing comments. Since the time to file comments has now expired, all that remains is for the FCC to finalize its own proposal. This action is expected momentarily. Rothenbuhler Engineering Co., Sedro-Woolley, Wash., is meanwhile accepting orders for equipment to be used under the amended Rules. Rothenbuhler suggests that companies planning Talkie-Tooter use shuld prepare their applications for filing with FCC now to avoid delay between times of filing and license grant.



General Electric's NEW Pacific '55' Gear-motor Provides Greater Flexibility to Cut Costs

General Electric's versatile new Pacific '55' gear-motor line is designed to meet industry's need for dependability and flexibility in an economical low-speed drive. The new, customer-improved unit provides added flexibility to cut time and labor costs, handle more applications and reduce your gear-motor inventory. Speed changes can now be made in minutes **right in your own shop;** the motor can be replaced **without disconnecting gear-unit from load;** new series "N" gear-motor can be operated with **any G-E motor** in the same horsepower and frame size—Type K, KG, KR, polyphase, single-phase, explosion-proof or d-c. The new motor is adaptable to practically **all drive requirements.**

Added flexibility is one of the many benefits you get with General Electric's new packaged low-speed drives. Others include:

Longer Life—Concentric bearing bores assure precision line-up of gears; larger gear housing dissipates heat more rapidly for longer lubricant life.

Easier Installation — Four-footed construction eliminates danger of misalignment to driven machine; balanced weight distribution prevents tipping.

Reduced Maintenance—Unit can be easily disassembled in three steps; combined filler and breather make inspection easy; magnetic drain plug collects any metallic particles that may be in gear-housing.

New G-E Pacific '55' Gear-motors are now available from 1–5 hp, 520 to 13.5 rpm. Other ratings up to 50 hp will be available soon. For more information write for GEA-6487, Section 852–3, General Electric Company, 235 Montgomery Street, San Francisco, California, or contact your nearest G-E Sales Office or authorized gear-motor supplier.

Progress Is Our Most Important Product

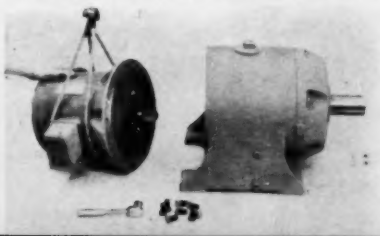
GENERAL ELECTRIC

REPLACE MOTOR IN MINUTES WITHOUT DISCONNECTING GEAR UNIT

1. G-E Pacific gear-motor can be removed with shop tools without disconnecting from load.

2. Motor stator may be removed without disconnecting the adapter, leaving rotor in place.

3. Complete motor replacement is simplified by removing motor and adapter as single unit.



it's a fact . . . as the Stamp River Timber Co. Ltd., contract haulers for the Sproat Lake Division, MacMillan & Bloedel on Vancouver Island, B. C., has found . . . *when it comes to hauling out big loads of heavy timber, nothing can match a Mack!* Shown here is one of the new Mack B60 units.

built to haul the big ones!

You can expect to get more top-flight performance out of Macks . . . because more goes into the building of every Mack . . . right from the start.

First of all, Mack makes more of its own components—cabs, engines, transmissions, gears, etc.—than any other manufacturer.

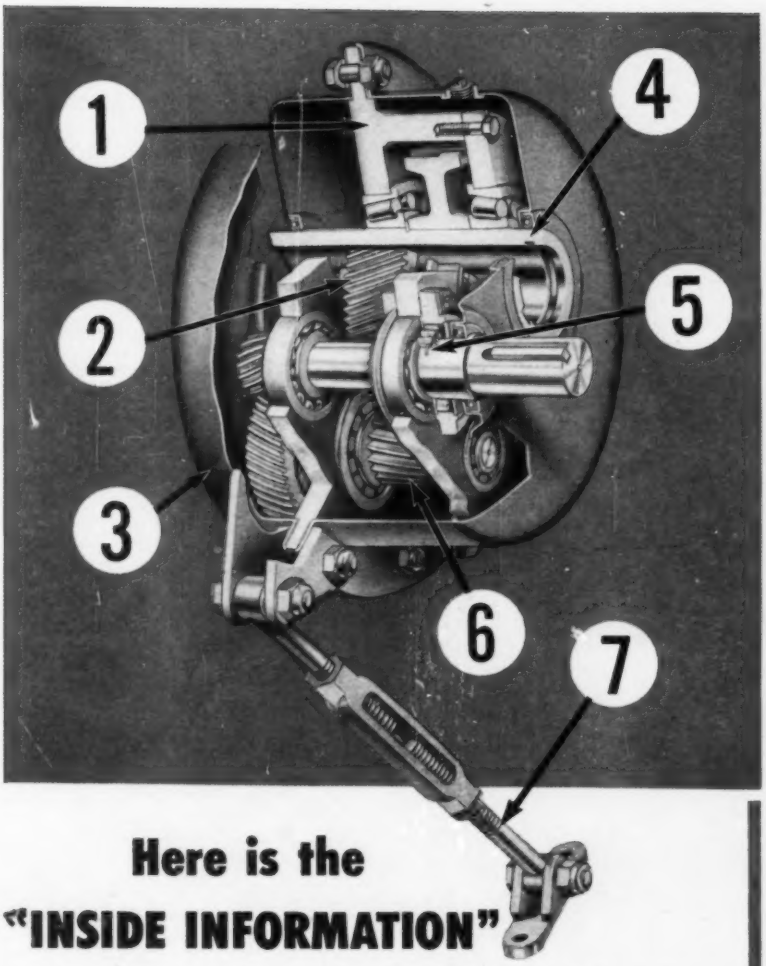
Secondly, Mack incorporates such time-tested features as the famous Mack Balanced Bogie and Power Divider . . . so that you are assured of maximum flexibility, even tire loading, uniform braking and positive traction over any kind of terrain.

Macks are built stronger, to stand up to every demand. They won't bog down . . . they'll keep the logs rolling.

Ask owners and operators of logging equipment throughout the country, and they'll tell you . . . "FOR SATISFACTORY SERVICE, THERE'S NOTHING LIKE A MACK."

3484

MACK TRUCKS Los Angeles • Denver • San Francisco • Seattle • Portland • Salt Lake City



Here is the "INSIDE INFORMATION" on FALK ALL-STEEL Shaft Mounted Drives

Take a careful look inside the Falk all-steel Shaft Mounted Drive, and you will know why this newest member of the famous Falk family is ideal for applications where direct mounting on the driven shaft is desirable. It is the only drive in its field with all these superior "In-built" factors:—

1 **All-steel Frame,** with more than double the rigidity of iron, supports all rotating elements.

2 **Precision Helical Gears,** designed and machined by Falk, rated to AGMA standards.

3 **Pressed Steel Housings,** whose sole function is to keep oil in, dirt out; easily removed for gear inspection without dismounting unit.

4 **Through Hollow Shaft** with counter bore provides for easiest installation or removal from driven machine shaft extensions.

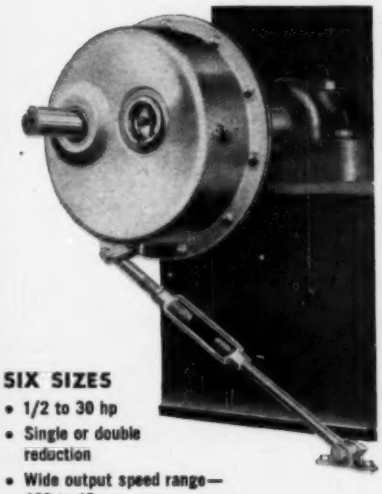
5 **Backstop** can be furnished with the unit or added later for positive prevention of reverse rotation.

6 **Positive Lubrication,** continuous direct dip of revolving elements at all speeds.

7 **Tie Rod** and turnbuckle serve as anchor and facilitate V-belt or chain adjustment.

Write to Department 247 for engineering bulletin, including selection and dimension details.

EFFICIENT SPEED REDUCTION IN LIMITED SPACE

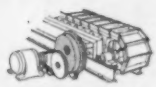


SIX SIZES

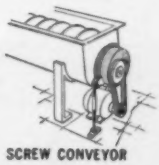
- 1/2 to 30 hp
- Single or double reduction
- Wide output speed range—420 to 10 rpm

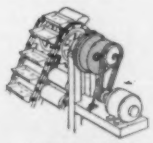
Expressly designed for topflight performance on installations requiring considerable speed reduction in limited space, the all-steel FALK Shaft Mounted Drive has quickly won acceptance throughout industry. This sturdy, compact, versatile reducing unit is an ingenious variation of the highly successful FALK Motoreducer design, pacemaker in its field for more than 20 years. Here, the time-proved design is adapted for mounting directly on the shaft to be driven, using V-belt connection to motor. Investigate now!

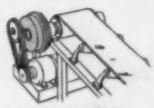
A FEW TYPICAL APPLICATIONS

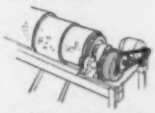

APRON FEEDER

LINE SHAFTING


SCREW CONVEYOR


BUCKET ELEVATOR


BELT CONVEYOR


GRAVEL CLASSIFIER

THE FALK CORPORATION, Milwaukee 8, Wisconsin

MANUFACTURERS OF

- Motoreducers
- Speed Reducers
- Flexible Couplings
- Shaft Mounted Drives
- High Speed Drives
- Special Gear Drives
- Single Helical Gears
- Herringbone Gears
- Marine Drives
- Steel Castings
- Weldments
- Contract Machining

FALK

...a good name in industry

Use your AIM*... Ginter-Wardein did...

Result: 34,159 bd. ft. unloaded in 40 minutes

Receivers of packaged lumber on flat cars get important advantages. Ginter-Wardein Company, Alton, Illinois, for example, now unloads a car of dimension lumber in minutes instead of in a day or more as previously required.

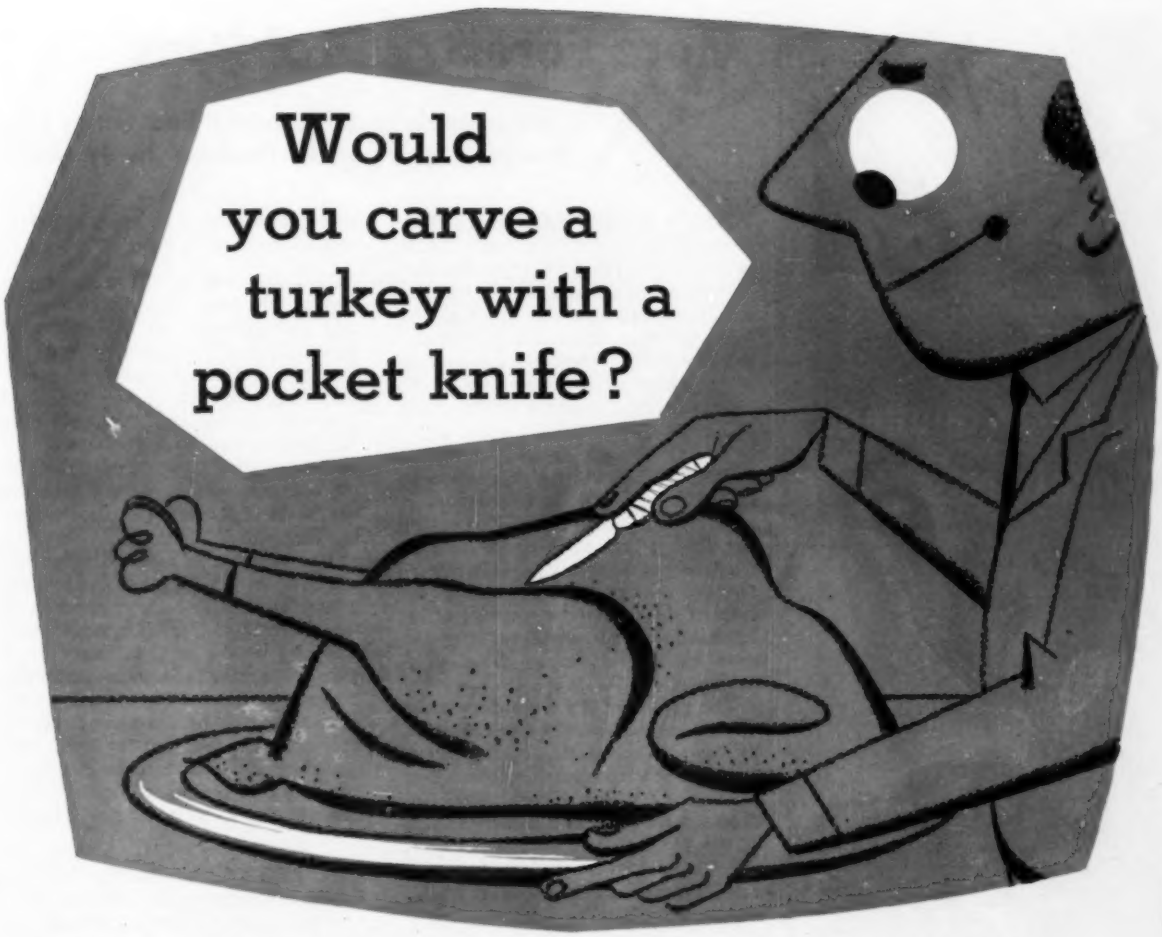
Mechanical handling and the consequent time- and money-savings are made possible by Acme Steel Strapping and the Interlace method (A.A.R. approved) of securing lumber on flat cars. (Idea No. U2-2)

Interlace method now allows receivers of lumber to mechanize their handling operations, minimizing manual handling. The large, neatly packaged units mean efficient use of storage space and better inventory control. Customer good will is multiplied when dimension lumber is shipped the Interlace way.

Acme Idea Man, John Rosean, and the others located in all parts of the country provide helpful cooperation to both shippers and receivers of lumber.

***Use your Acme Idea Man.** Ask him about the Interlace method. He can give you valuable shipping ideas whether you ship on flat cars, in box cars, or on cars with bulkheads. Write: Dept. LBU-126, Acme Steel Products Division, Acme Steel Company, 1025 Sixth Avenue South, Seattle 4, Washington, also Portland, Oregon.

ACME STEEL **STEEL STRAPPING**



You could, but it's more efficient to use a carving knife. You always get better results with the knife specifically designed for the job. That's why "OK BATTLE AXE" Chipper Knives improve your chipping operation. They're especially designed to do the job best, to give you maximum production of uniform chips with a minimum of sawdust and splinters.

"OK BATTLE AXE" superiority begins with the selection of special high alloy steel which is thoroughly and evenly hardened in salt bath furnaces, then carefully tempered to produce dependable, durable blades. Extra-keen OK cutting edges hold up longer under high impact loads without chipping or shelling and deliver longer runs between regrindings than ordinary knives.

Stop robbing profit to pay for downtime. Improve your overall chipping operation. Specify . . . install . . . "OK BATTLE AXE" Chipper Knives. Made to fit all makes of paper mill and saw mill chippers. Many sizes are stocked at Cincinnati, Ohio, and Portland, Oregon.

For complete information on "OK BATTLE AXE" Chipper Knives, write Dept. 46-R.

THE OHIO KNIFE CO.

CINCINNATI 23, OHIO

Manufacturers of OK HOG KNIVES, VENEER KNIVES, CHIPPER KNIVES, PLANER KNIVES

When you make **your** mark... on lumber, steel, iron, concrete, etc.... make sure it stays permanently visible by using Dixon Lumber Crayons or one of the line of Dixon Industrial Marking Crayons. Unequalled in quality and value, these sun-and-rainproof crayons are the standard of excellence throughout industrial America!

Sold everywhere - in Mill Supply Houses, Hardware Supply Firms, Industrial Supply Distributors and Engineering Supply Firms. Be Sure To Specify:

DIXON
LUMBER CRAYONS!
In Red, Yellow, Blue

THE JOSEPH DIXON CRUCIBLE COMPANY
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More Forestry Problems

Washington State foresters find taxes, fire, porkies and legislation are lively topics

WHAT'S HAPPENED TO our foresters? Where are they hiding? There is still a serious shortage of foresters coming out of college. Strong concern for this problem was expressed by Mike Webster, supervisor of forestry, who opened the Washington State Forestry Conference in Seattle Nov. 2 with his traditional resume of the year's highlights.

This Conference, in its 35th annual session, stands out as a unique soundingboard for new ideas in forestry. It attracts foresters from all over the state and brings them up to date on the latest problems. This year one of the major issues to be brought to the floor of the conference was that of reorganization and consolidation of the state agencies dealing with administration of public lands.

The climax of the day's discussions on the consolidation issue was speeches by the political candidates for the office of state land commissioner, Bert Cole and Charles Maybury. Their addresses were given at a dinner meeting of the Society of American Foresters which wound up the day's forestry talk. (On Nov. 6, Bert Cole, Forks, Wash., logger, was elected.—Ed.)

HIGHLIGHTS OF THE YEAR as presented by Mr. Webster include;

• Great success was reported for the cooperative fire weather forecasting service set up by the state and the U. S. weather bureau at the Olympia forestry headquarters. This service provides on a 24-hour 7-days-a-week basis much more reliable fire weather information than is available through normal channels, due to the fact that an entirely different set of weather data is needed to properly forecast fire closure for logging and woods entry.

• Microfilming of original government field survey notes will enable foresters, loggers and engineers to more rapidly and accurately carry out field work.

• A campaign aimed at more productive management of small forest ownership is underway. This farm forestry program is spearheaded mainly through education.

• The honor camp staffed by inmates of the Monroe Reformatory was set up in late summer in Clallam County. This is a portable camp which can be moved to various state tracts requiring rehabilitation work.

THE NO. 1 PROBLEM in forestry in western Washington is how to properly and equitably tax second-growth forest lands. This premise was advanced by W. D. Hagenstein, executive vice president of the Industrial Forestry Association, Portland, Ore. He believes that large volumes of immature second growth timber will be cut before it reaches maturity because of the tax policies of the various counties.

The problem is how to bridge the gap between the old growth and young growth and not lose any production in the meantime. Mr. Hagenstein said that one reason for cutting young growth on private lands is that public timber has not been available in amounts equal to the annual allowable cuts. He said that the lower values of young growth to be harvested later must be recognized by the counties, since a forest must pay its own way.

TWO PROPOSALS aimed at improving the management of state lands were presented, one by Sidney Coleman, assistant executive secretary of the state legislative council, another by Henry R. Seidel who discussed legislation proposed by the school directors.

Substance of Mr. Coleman's speech was that state lands would be consolidated under the state land commissioner, whose office would remain a major elective state position. There would be provision for an appraisal board to check on the commissioner's sales.

The state supervisor of forestry office would be placed under the commissioner, according to the legislative council's plan.

"A FORESTER'S ANALYSIS" on the proposed legislation was presented by Charles S. Cowan, manager of the Washington State Forest Fire Association. He pointed out the general lack of provision for technical forestry in both proposals. He said that the school directors' bill has omissions and conflicts, resulting in no assurance of long-range management policies.

Following a general review of biological problems facing Washington forests by Weyerhaeuser Timber Co. assistant managing forester Royce O.

(*Continued on page* 124)

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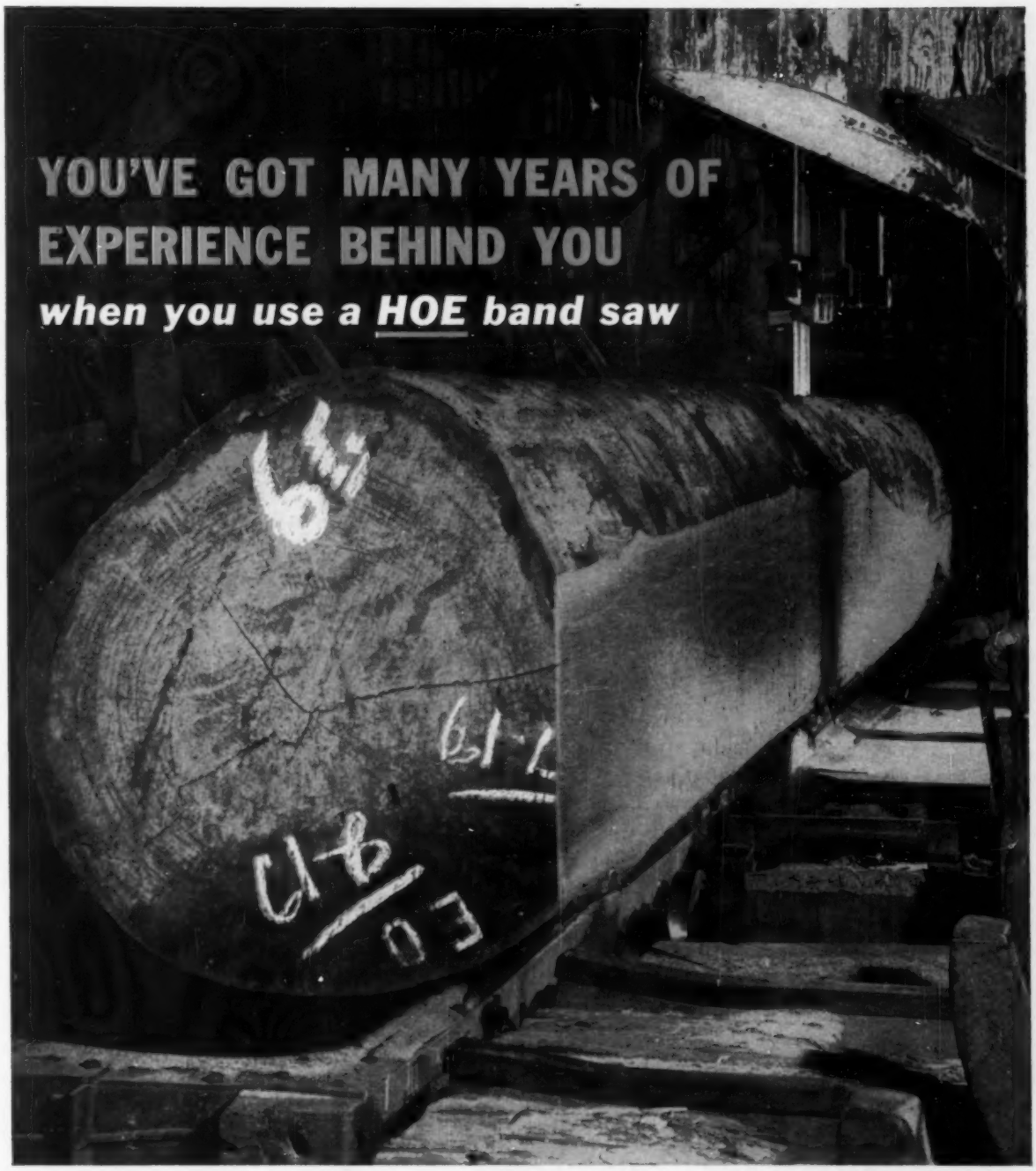

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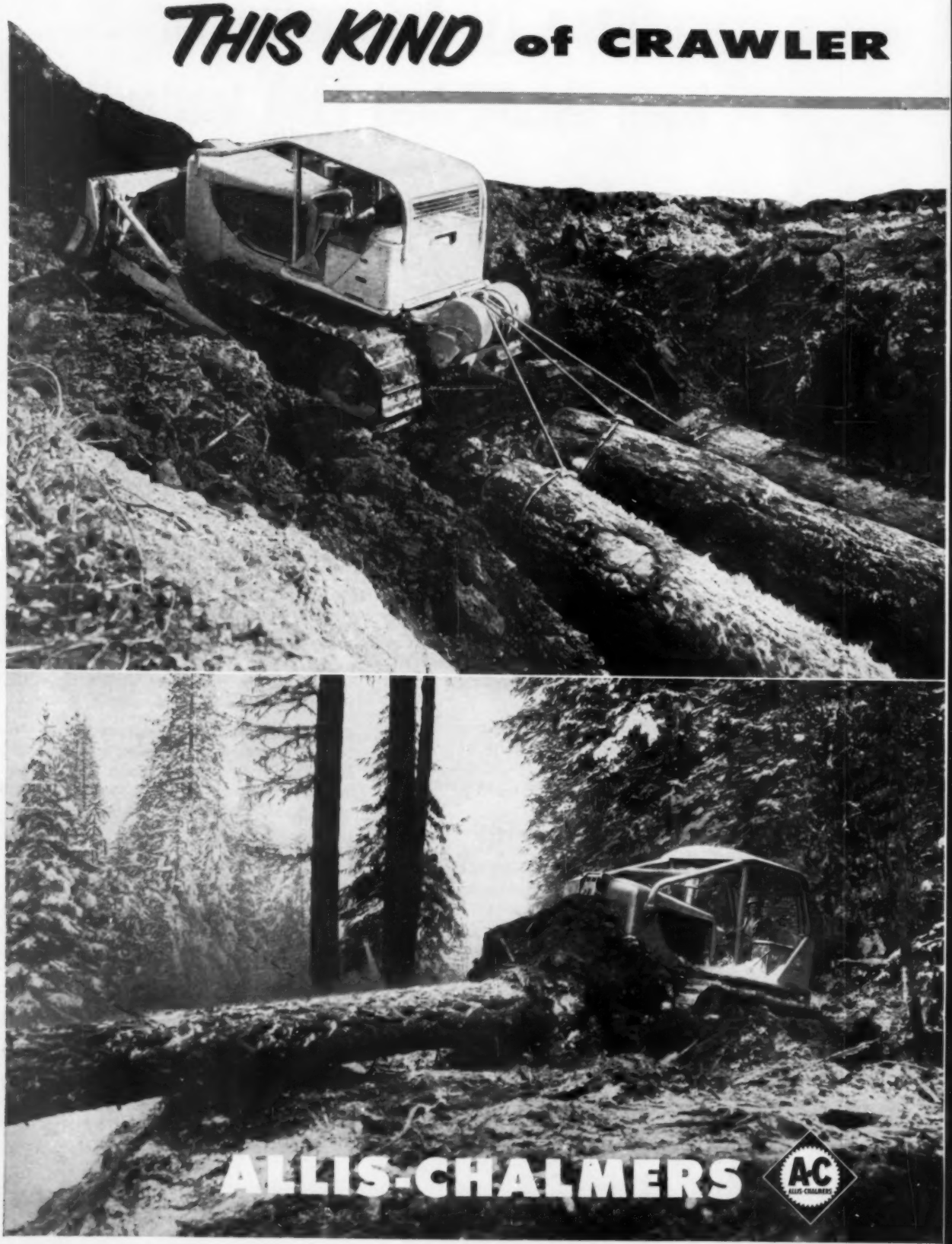

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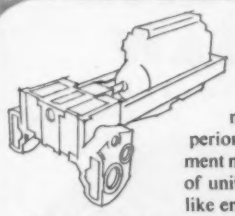

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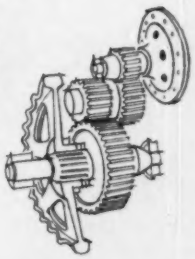

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Mile-long Chip Conveyor uses Fluid Couplings for smooth power flow!

On Pope & Talbot's elaborate, mile-long conveyor system, two of the main conveyors receive a *smooth, steady* flow of power *from* 20 hp, 1200 rpm motors, driving *through* Twin Disc Fluid Couplings.

Said to be one of the longest in the country, this unique chip conveying system was developed to effectively utilize by-product wood. The impressive-looking 4700-foot "pipeline" links Pope & Talbot saw mills with St. Helens Pulp and Paper Company at St. Helens, Oregon.

Through this half-million dollar investment, the company has increased the utility of by-product wood from fuel grades to pulp chips. This new usage has improved market values, decreased the amount of timber harvested for pulp and is expected to improve the mill's log procurement program.

The Twin Disc Fluid Couplings aid the entire operation, by freeing the motors from stalling and by preventing burn-outs on heavy starts . . . by smoothing out shock loads and vibrations—protecting *both* driving and driven equipment . . . and by providing full output torque, equal to input torque.

Twin Disc Fluid Couplings can do the same for *your* operation! If *you* have a power transmission problem, consult Twin Disc Specialists. Write today, to Twin Disc Clutch Company, Dept. DS, Racine, Wisconsin. Request Bulletin 144-D, and *new* HYDRO-SHEAVE® Bulletin 145-C.

Twin Disc offers fluid couplings in a complete range of sizes from 7.4S to 27, to meet requirements for practically any motor or engine installation from ¾ to 850 hp. With ten different standard models from which to choose—providing a wide variety of input, output combinations to match any hook-up—you'll find it easy to select the Twin Disc Fluid Coupling best suited to your particular requirements.

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Whenever the skyline is busy, the Stacker moves in and quickly dozes big logs from the off-highway trucks.

Logs which do not go directly to the bucking areas are quickly sorted and decked as much as ⅛ mile away.

At the Hollow Tree Lumber Company . . .

LETOURNEAU ELECTRIC ELEPHANT

Big redwood and fir logs pour into Hollow Tree's mill at Annapolis, California, by off-highway truck — and emerge as lumber at better than 100,000 board feet per day. Getting these logs sorted in decks and dealt out to the hungry saws in the proper grade and species at the proper time is a job for a giant! For that job, Hollow Tree uses the big and tough LeTourneau Electric Log Stacker.

At a grueling pace, 9-hours-a-day, this versatile log handler unloads trucks and loads trailers, sorts to the proper decks, feeds two bucking areas, and makes quick work of other jobs where elephantine power is called for. Together with a small lift truck it feeds logs to the mill table and builds up a deck of bucked logs to keep the mill humming.

LONG HAUL FROM DECKS

The topography at Hollow Tree's mill "B" forces location of some cold decks 700 to 800 feet away from the mill approaches. The Stacker's ability to shuttle 40-foot logs back and forth to these decks, 3500 to 4000 board feet per trip, is the key to the pell mell pace set by this busy mill. Even in seasons when these decks are all but isolated by heavy, deep

Here's a big log that's fit only for pulp. When enough of these accumulate, the Stacker loads them out.

In addition to other chores, the Stacker builds an extra deck of bucked logs to assure continuous operation of the mill.

Powered steel tusks assure a safe trip across the rutted mill yard.

"SHUFFLES AND DEALS"

mud, the big LeTourneau Log Stacker barely slows down in its job of dealing logs to the proper decks and bucking areas.

ELECTRIC POWER DOES THE JOB

Power and versatility for complex mill yard operations like that at Hollow Tree Lumber Co. is possible only with the exclusive LeTourneau System of Electric Power and Control. This system—in which all machine functions are independently powered by individual electric motors — brings full power of a big diesel-electric power plant into focus directly on the job of handling big loads.

Precise control of the Stacker's boom and forks speeds up the job of feeding bucked logs to the mill table.

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LeTourneau Electric Log Stackers are working today not too far from you. Ask your LeTourneau distributor to show you one in action . . . or let him show you the new sound film, "Giant In The Yard." In it you'll see how Hollow Tree and other mills have solved the problem of moving heavy log loads fast, anywhere in their yards. For free literature on the Stacker, just mail the coupon below..

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LeTourneau Logging Equipment Division is currently expanding its staff of logging specialists: Sales Management, district representatives, field engineers, service men. If you have a background of successful, productive experience in this field and you are looking for an opportunity where you can move up, send your qualifications to Mr. Hobson Tune in care of our Logging Equipment Division.

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Pacific Logging Congress

(*Continued from page* 35)

rier telephone services, there are approximately 2500 private microwave stations, with $50,000,000 worth of equipment, in the U. S. today. The bulk of them are in the petroleum, railroad, power and police groups. They operate on a year to year developmental type of license.

Reporting on new ideas in practice, T. W. Ildstad, Weyerhaeuser Tbr. Co., Enumclaw, Wash., described several devices in use at their operation. These included two portable spar trees, one 100 feet in height and the other 120 feet, devised after finding out that trees above 3500 feet elevation became brittle and were not safe to use for logging. The portable spar tree uses a steel carriage running on 60-car wheels; the carriage and spar weighs about 60 tons. It takes about two hours to lower the spar, pickup rigging and start moving and it takes about six hours to set it up and get logging again.

The practice of having a man spool a straw line on a drum has been eliminated by a level wind for the straw line made similar to the old roller type fairlead with two vertical and two horizontal rolls.

Ildstad also reported on the use of a 40 in. high stake now being used on trucks, which carry 10 ft. Seattle railroad bunks, transferred to them when the railroad operation was abandoned to truck. To unload the trucks, said Ildstad a D8 bulldozer was converted at a cost of approximately $2500. The dozer blade was removed and replaced with a pusher rack heavy enough to push the logs off the truck.

ONLY ONE UNLOADER operator serves at the dump, said Ildstad. The truck driver removes his own binders and trips the stakes, which takes from 5 to 6 minutes to unload the truck and load the trailer. Total maintenance of both dump and unloader, including fuel, has been under $3.00 per day over the past three years operation.

On the tree farm front, Ildstad reported that under consideration is the lowering of the water level in swamps from 18 to 30 inches at reasonable cost and putting the land back into trees. A small shovel with mats will dig a ditch about 10 feet wide, at a cost of between $15 and $20 an acre. Hundreds of swamp land acres now lie idle throughout tree farm acreages.

Ildstad also reported that management of alder now is possible because of its recent upgrading and utilization. In solid stands, thinning is planned at perhaps 5-year intervals to obtain maximum yield. On partial stands, all alder will be removed to permit conifers to take over. Horses and small tractors reduce damage to the residual stand.

Keynoting the importance of natural resource roads, Henry J. Vaux, Univ. of Calif. School of Forestry, told the Congress that roads are the key to the timber supply of Western U. S. in the next 10 to 20 years. They are needed to open up access to 850 billion bd. feet of old growth timber now untapped in Oregon, Wash., Calif. and Idaho.

Vaux said the cost of hauling logs on public roads has risen 65 percent in the past 20 years. About 18 billion bd. ft. of logs travel the public roads in the west annually, upwards of 85 percent of the timber harvest. The remainder is hauled to mills over privately owned truck roads and railroads.

ANALYZING ROAD COSTS, Vaux said that the combination of road and truck which results in minimum cost to the operator may not be the same combination which minimizes the total cost of log transportation to the public. Public welfare requires that road design be based on the average of conditions for all users. Therefore, a class of users whose requirements differed markedly from those of the average user is forced to adapt to average transport cost conditions.

Vaux suggested the specific highway needs in specific areas should be recognized and used as a basis for classifying roads in accordance with differences in the predominant uses to which they are put. State highway standards may then be varied to conform to each of the several major classifications. Conforming to standards based on local conditions rather to having a conform to general state wide average of conditions would pose less serious problems to local users.

The Washo Road Test indicates that our modern public highways tandem axle hauling equipment can transport approximately ¾ more pay load than single axle equipment with the same equivalent effect on the pavement, reported Harold T. Miller, C-Z Corp..

(*Continued on page* 104)

Versatal pump speeds window frame production

Bedding Putty Applied To Frames As An Assembly Line Operation

Tedious, hand application of bedding compound was a problem at the Midwestern plant of one of the world's largest manufacturers of wood window units. Average weekly production was 50,000 units—but hand methods of bedding were slow, costly.

Then, an air operated Alemite Versatal Pump was installed. Production stepped up immediately—costs were cut. Other important advantages of Versatal power methods were proved: fast, uniform flow of material—elimination of bubbles—absence of surge during application. No waste—because *all* the material was emptied from the pail.

Alemite Versatal Pumps deliver up to 27 gallons of material per minute ... and require a minimum of maintenance. There are 22 different models, with air motors of the proper size for the air supply in *your* plant—plus accessories that get the last pound out of the drum!

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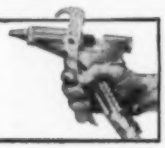

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... to test performance, speed reordering

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But gathering wire rope facts can be time-consuming—unless you have an easy, simple system.

Leschen's Service-Score Stickers provide such a system. The facts are always at hand—on the machine while the wire rope is working, and in the record book from then on.

Service-Score Stickers make it easy to compare the service you get from various rope constructions, types, and brands, so you *know which one is best* for you.

With the Service-Score System you prove to yourself that Red-Strand wire rope consistently exceeds industry standards for strength and safety.

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H. K. PORTER COMPANY, INC.
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Pacific Logging Congress

(*Continued from page* 102)

Portland, Ore. He pointed out other possible applications of the Washo test for loggers' use:

- Present asphalt roads comprising our main highways are adequate to carry the heaviest truck axle loads and more.
- Specifications for a 40,000 lb. tandem axle loading on a haul or timber access road built on comparable conditions, prevailing at the Idaho test site, could be: Well-drained processed basement soil, sub-grade; 14 inches of graded rock sub-base material, plus four inches of asphaltic concrete, making a total pavement structure thickness of 18 inches or 20 to 22 inches of sub-base material plus two inches of asphaltic concrete to make a total pavement structure thickness of 22 to 24 inches; additional four to six feet of shoulders in each side of the road, paved same as main road, or at least given a light bituminous treatment and marked for emergency traffic; clearly visible side guide lines to channel traffic; an overall width of 32 feet of paved surface for a two-lane road; 20 feet on a one-lane road.

MANY WESTERN STATES were already carrying out some of these suggested design features long before the Washo test took place, said Miller. Timber access roads built by public agencies have loading capacities almost twice the 40,000 lb. tandem axle loadings. Road capacities of privately built access roads are also far above those of public highways.

Gordon A. MacGregor, MacGregor-Triangle Co., Boise, Idaho, told Congress members that loggers would pay an average of 50 cents a thousand board feet extra taxes on tires, gas, inner tubes, recapping, and ton tax for the new federal-state highway program, whether they hauled on private or public roads. He urged them to work to raise allowable pavement loads from 32,000 to 40,000 lbs., tandem axle loading.

MacGregor pointed out that the extra cost of building key arterial highways to this higher specification would save the taxpayers millions. In Idaho alone, half of the three million dollars spent annually for highway maintenance could be saved if roads were built to higher standards. He believed the average road built to carry 40,000 lb. tandem axle loads could be amortized by the savings alone in upkeep in 15 years.

MacGregor said the logging industry had always expressed a willingness to pay the extra cost of building key arterial roads linking forest areas of perpetual yield capacity to major manufacturing centers, to standards that will permit the safe and economical transportation of logs.

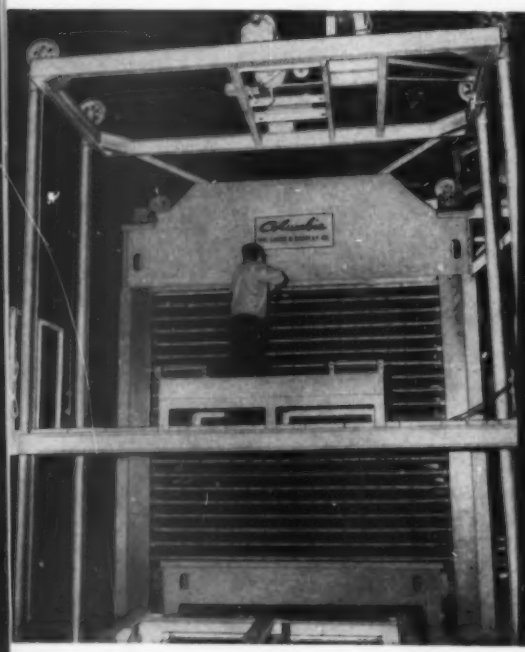
THE DIFFERENCE IN CONSTRUCTION in cost between the 32,000 lb. load standard road and one built to handle 40,000 lb. loads is an added four inches of sub-base material, MacGregor said, and four feet of additional shoulders on each side of the road, plus side guide lines.

A panel moderated by George Drake, forest consultant, Tacoma, Wash., discussed What's New In Logging.

Advantages of hauling logs by weight were given by Clifford M. Bryden, Roseburg Lbr. Co., Roseburg, Ore. They are: rapidity of measurement; where logs can be waterscaled, cheaper scaling costs and less time per truck; overload fines can be minimized; all loads can be brought up to full allowable weight for highway hauls; the importance of weight on a hauling unit can be studied more effectively, because each extra pound of dead weight on a highway unit costs $1 a year; loads transferred from off-highway hauls to highway hauls can be legalized before entering public highways; uncertainty is taken out of log hauling for the contract trucker; there is no argument as to who gets best logs and whether the scaler is being fair.

Roseburg Lbr. Co. uses a 50,000

(*Continued on page* 107)



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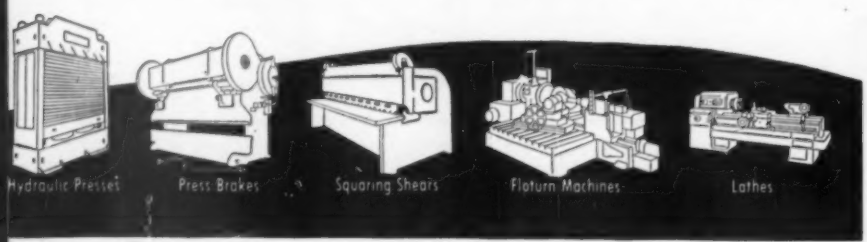
Easy-rolling production is a characteristic of Columbia Hydraulic Hot Plate Presses built by Lodge & Shipley. Widely accepted by leading producers of wood, plastic and laminated products, these Columbia Presses have 15 outstanding features for increased output and quality.

For complete details, request Bulletin HP-11 from: The Lodge & Shipley Co., 3060 Colerain Ave., Cincinnati 25, Ohio.



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Condor V-Belt engineering makes the difference. The strength member is micro-positioned in heat dissipating rubber for a smoother running, cooler running drive ... for longer life with the heaviest power loads. Condor V-Belt sidewalls are made *straight* to put positive pressure on the sheave grooves for more grip . . . less slip. Straight sidewalls help support the super-strength synthetic cords of the belt in a straight line so that *all* cords pull equally . . . deliver their maximum share of power. Controlled length is accomplished through prestretching during manufacture to remove inelastic stretch that might otherwise occur on the job.

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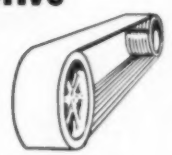
A New Belt Drive Concept For Heavy-Duty Power Transmission. Eliminates V-belt matching problems. Delivers up to 50% more power in the same space as regular V-belts or equal power in less space.



Write for copy of Poly-V Drive Bulletin #6638.

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RM-506 Q

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Pacific Logging Congress

(*Continued from page* 104)

lb. Fairbanks-Morse scale with a double platform space 32 feet center to center, equipped with offset heads so that the load can be legalized while on the platform and yet not endanger the scale head due to falling logs.

With Roseburg Lbr. Co.'s one-man system of weighing and legalizing with double platform, air tongs and printomatic heads, the cost is 35c per thousand bd. ft. where 35 to 40 loads per day are processed. A minimum of 20 loads per day would justify the man and equipment.

TYPICAL TRUCKING RATES are about as follows: base rate, 18 to 20c per 1000 lbs.; highway mile, 1.8c to 2.2c per 1000 lbs.; adverse highway or good gravel, 2.6c to 3c per 1000 lbs.; adverse gravel or dirt, 3.2c to 4c per 1000 lbs.

In Oregon, maximum allowable weight on a truck-trailer combination is 76,000 lbs. on a 10-33-33 basis. With a 26,000 lb. unit, this leaves 50,000 lbs. of net payload. On a 60 mi. haul with a full net load, the average cost would be about $79.

Hauling 1000 lbs. costs $1.58 from woods to pond. Roseburg Lbr. Co. studies show an average of 2000 to 3000 lbs. underload when not using scales. Therefore, 2000 more lbs. per load or $3.16 is returned per truck and on a 40 load day, this amouts to $126.40 for scale operations. Cost of scale operations is $65, leaving a daily operating profit of $61.40.

A portable spar tree was described by W. Wallace Baikie, Baikie Bros. Logging Co., Ltd., Campbell River, B. C. Mounted on a conventional truck, it is hydraulically raised by a 5-stage ram and the guy lines are single line powered with hydraulic motors and reduction winch, which eliminates wrapping the stump. The unit uses a double bull's eye fairlead, which allows working around the tree if necessary without having to move a block.

The base of the tree is fastened solidly to the truck and the weight is transferred to the ground through the tailgate which has two hydraulic jacks, one on either side. To lift the tailgate for traveling, the jacks are lowered until it is clean off the ground and the strawline through the strawline fairlead on the A frame pulls it up to traveling position.

Baikie stated that it is possible to yard through almost 360 degrees without having to swing a block. The main and haulback are over the top of the guy lines, which is a timesaver when changing roads. The unit can be dropped, moved and raised and be logging, aside from traveling time, in two to three hours at the outside. It is possible to yard approximately 2/3 of a setting and then move down the road a half setting to get the rest of that setting.

FARMERS, WHO PRODUCE more than half of the 2½ million cords of eight foot pulpwood produced in the Lake states, have developed light and inexpensive machinery and equipment to harvest their timber crops, stated H. M. Shepard, American Pulpwood Assoc., New York City.

Shepard said that 60 Lake states pulp mills last year imported a half-million cords of pulpwood from Canada. Montana and Colorado. Aspen accounted for ⅓ or one million cords of total pulpwood consumed. Dense hardwoods totaled about 100,000 cords; the remainder was softwoods. The commercial forest area of 50,000,000 acres is nearly all second growth, producing a cut of from 5 to 10 cords an acre.

Shepard reported typical equipment as being: one man power saws; a conventional bobtail farm truck with platform body; a 2 to 3 ton single axle truck in combination with single axle semi trailer; light farm tractors in the 20 to 30 hp. class for skidding; light crawler tractor such as Oliver OC-3, John Deere or Terratrac; the Drott skidloader; the Anderson Woodhawk, mounted either on rubber tires or Athey tread; double bunk drays, hauled by a team or small crawler

(*Continued on page* 108)

THE *NEW TULSA*® POWER TAKE-OFF

SINGLE SPEED • MEDIUM DUTY

Extremely light . . . you can hold it in the palm of your hand . . . because the NEW TULSA Power Take-Off has a die-cast aluminum housing which at the same time gives all the ruggedness and durability for which the TULSA line is famous around the world. Output shaft available in three sizes—13/16", 7/8" and 15/16"—and rotates on two needle bearings. Furnished with either cable or lever control to suit individual operators' requirements. Designed and built for the full range of medium duty work, this new power take-off offers the extra advantage of low price, nationwide distribution and service that have made the TULSA line a favorite everywhere.

Tulsa Winch
TULSA, OKLAHOMA DIVISION OF VICKERS Inc.

Pacific Logging Congress

(*Continued from page* 107)

tractors to a central landing; special loaders such as the Collins, the Bates, the Boyd and the Hiabob, all of which can be mounted on light crawler tractors; truck mounted loaders such as the Hiabob, which loads itself and another hauling truck.

REPORTING MORE ON what's new in logging, Gray Evans, Hammond Lbr. Co., Trinidad, Calif., described the "wood basket" used by his company in carrying on salvage operations in the Big Lagoon area. This chunk basket, built on a Peterbilt truck, is essentially a gondola-like steel rack mounted on the chassis. The frame is hinged on one side. In the woods, chunks and re-logged pieces are dropped into the basket with air tongs. No binders are needed to hold the load in place. Arriving at the pond, the log dump hoist lifts the basket from one side, dumping the material out on the other side. Hammond uses two such units, each holding about 4,000 bd. ft. net lumber tally scale. The average load is loaded in 10 minutes, with a ¾ yd. Bucyrus-Erie shovel equipped with a shovel front end and air tongs.

An entire morning session was devoted to safety in logging. Keynoted by Gov. Arthur B. Langlie of Washington, the program was planned by Paul LeRoy, Weyerhaeuser Timber Co., Vail, Wash.

The presentation included a specially prepared set of projected graphs showing accident trends in logging in the western states and Canada, with emphasis on comparison of trends in those firms maintaining active membership in Forest Products Safety Conference work. This presentation was made by Robert T. Miller, The Long-Bell Lumber Co., Longview, Wash. A projection of slides depicting fatal logging accidents, with discussion by the audience, was another program highlight. Ken Murdock, Pacific Northwest Loggers Assoc., Seattle, Wash., showed the recently released motion picture on "Safety in Falling and Bucking," produced through cooperative efforts. A summary of the two-hour safety program presentation was made by Roy F. Morse, Longview, Wash.

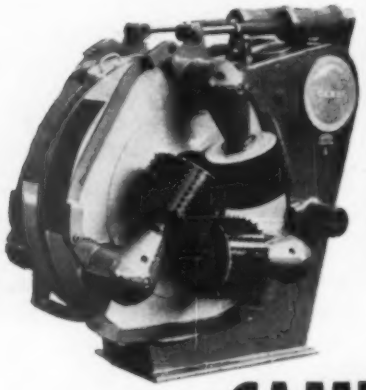
TWO EXPERIMENTS WITH the Wyssen skyline crane have been carried on at Twisp, Wash., on an experimental Forest Service sale for the past two years, reported Elmer E. Matson, Pac. Northwest Forest Experiment Station, Portland, Ore.

The first machine, a W-60, had too many limitations and was not considered workable in heavy American timber. Logging cost figures for the Wyssen unit are listed at about $18.40 per 1000 ft. for two million feet logged experimentally in 1955. The device offers possibilities, said Matson, because a large volume of timber under management of the Forest Service is classed as inoperable and this device may help open up such tracts. It is especially suitable in areas where the minimum of soil disturbance is required and where heavy rock makes road construction expensive.

Three models of the Wyssen crane are now in use in different parts of the world. In addition to the Model W-60 used at Twisp, a new model called a five ton machine was tested last winter in Switzerland.

Good practices used in logging can help maintain and create desirable stream conditions for the production of trout and salmon, stated Alfred R. Morgan, Oregon Fish Commission.

Desirable practices that are not harmful to fish life include keeping slash and logging debris out of stream channels, avoiding log jams which cause siltation of stream bottoms, minimizing erosion and resulting siltation caused by poorly drained roads, and not removing gravel from stream beds. Morgan recommended that loggers place culverts properly when a logging road crosses a stream, to prevent blocking of fish runs. Log and dirt fills used instead of bridges at stream crossings should be removed before high water periods occur. Log loading areas should not be located near stream banks or at the bottom of a valley.



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The unit is self-contained and easily installed wherever electric power is available. Built to American standards, the new CAMBIO BARKER is engineered for fast, efficient barking, plus unusually low installation cost. Available in capacities from 2" to 42" log diameter.

Other **SODERHAMN** *Equipment Includes:*

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Bottlenecks eliminated. Instant instructions to cutting and logging crews spread throughout hundreds of miles of wood insures Bradley the fastest, smoothest supplies of the right kinds of logs at the right time to meet hour-by-hour milling requirements. Equipment and manpower efficiency are increased, bottlenecks are eliminated, Bradley racks up real savings all along the line with General Electric Two-Way Radio.

On the air means "on the way". Bradley's General Electric Two-Way Radio system ties together mill office, wood camps, forester's trucks, log loaders, and fire plows. The advantages in control and efficiency are instant and far reaching. Learn how G-E Two-Way Radio can improve your operations. Your local General Electric Communications Counsellor will be glad to analyze your needs and advise how you may profit through better communication in your business.

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Smaller Timber Sales

(*Continued from page* 44)

Besides the access road, which follows an old railroad right-of-way some 30 miles, a total of 130 miles of spur road has been constructed for harvesting the 47 million feet of timber. The 28-ft. main road, topped with binders in excess of USFS specifications, was contract built in 1955 by Anliker & Robinson of Bend.

BROOKS-SCANLON BUILT its own spur roads, a project presenting unique construction problems. Because of lava rock formations throughout the area, it was impossible to effectively do conventional grader work to smooth the road bed. Instead, after bulldozing to the extent necessary, the company prepared the road bed by rolling it with a Hyster grid roller. This unit effectively solved construction problems by shoving the protruding rocks down into the pumice formation. Use of the graders had a somewhat opposite effect. This tends to bring the rocks to the surface.

The woods operations has three Caterpillar road patrols, a No. 12 used for road construction and two No. 212s for maintenance. On the mainline truck road these latter two units work together as a maintenance team. When blading the road during trucking hours, one motorized grader follows far enough behind the other to present no traffic problem to either loaded or empty logging trucks. Having the two blade units together prevents cluttering the roadway with a working burm — road-builder terminology for the ridge of surface material left by the lead grader. Not only is the burm of inconvenience to the truckers, but road maintenance personnel object to having it scattered. They want it spread evenly over other half of the roadway.

The woods staff holds monthly meetings which convene as soon as last month's costs figures are available. At that time the personnel reviews activities of the recently completed period and lays plans for the current and future months as a means of supplying the plant with logs delivered to the pond as economically as possible.

Stumpage Rates Increased

• Stumpage rates to be paid by the Warm Springs Lumber Company, Warm Springs, Oregon, for timber cut under contract since last April 1 on the Schoolie Unit of the Warm Springs Indian Reservation are being increased by approximately 18% for ponderosa pine and 44% for Douglas fir and other species, the Department of the Interior has announced.

At current lumber price levels Secretary Seaton's action will increase the tribal income for the year beginning April 1, 1956, by about $125,000 if the company cuts the usual volume of timber during that period.

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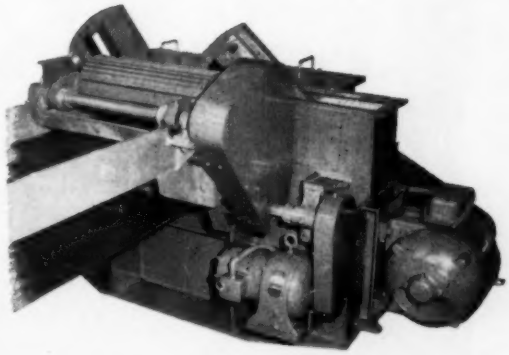
New FROM Jackson

ALL-STEEL

Veneer Chipper



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Genetics Review

(*Continued from page* 57)

ents. Others, such as paper birch x gray birch and red maple x silver maple, are intermediate in growth rate. Some of the newer pine hybrids show definite promise of hybrid vigor, mass-production possibilities, and probable weevil resistance.

Most promising of these species hybrids will be investigated as to their mass-production possibilities and different tree x tree combinations will be tested. The fast-growing Japanese black x Japanese red pine hybrids could probably be mass-produced cheaply by controlled pollination.

RACIAL TESTS: The Northeastern Station has racial tests under way in red pine, white ash, green ash, and Norway spruce. A large test in eastern white pine is being studied in conjunction with the other eastern forest experiment stations and Canada. All the older tests have turned up important differences in growth rate and other characters associated with differences in origin. On the basis of early growth, the local races of native species did not always prove to be the best. For example, Maryland white ash planted in eastern Pennsylvania is growing much faster than native stock.

Scotch pine has a rather unsavory reputation in the Northeast because much of the early reforestation resulted in "typical" crooked growth. Last summer, in cooperation with the State of New Hampshire, we measured a 15-year-old Scotch pine racial test (IUFRO)* in southern New Hampshire and found that there are Scotch pines worth planting in the region. The trees of Latvian and Esthonian origin are fast-growing and straight-stemmed.

INDIVIDUAL TREE SELECTION: Studies are now underway in two species — sugar maple (high sugar content) and eastern white pine (weevil resistance). In Scotch pine, timber growers in this region want straight boles and Christmas tree growers want blue color, but they want them now. We believe it is best to test the straight-growing Latvian races and the blue Spanish races (followed in both cases by selection and breeding) than to make selections in a plantation of unknown origin.

EXOTICS: During the past few years information has been gathered on several hundred tree species not native in the Northeast. About 100 of these show definite promise for forestry and for future breeding work of rapid growth, excellent form, or freedom from pests. During the next decade we hope to establish small forestry plantings of these promising species; we have already made a start on about 15 of them.

There are very promising exotics in pine, spruce, fir, and some monotypic genera such as Ginkgo. The introduced species of spruce and fir frequently outgrow the natives. Norway and sycamore maples are among the most promising hardwood exotic species and are already reproducing naturally in areas where sugar maple does not grow. European sweet cherry is another tree that has gone wild and is producing straighter sawlogs than the native black cherry in the Philadelphia area. On the other hand, exotic species of ash, oak, and hemlock have shown very little promise.

FIELD TESTS: Field testing for evaluation of genetic differences must receive as much study as the actual selection and breeding. Hybrid poplar clonal tests have clearly shown the desirability of keeping the plantation as uniform as possible by plowing and cultivation, the need for more replication than has generally been used in forest research, and the relative amounts of variation due to genetics and environment. We favor experimental designs with many replications (up to 30) and with small plots containing only 1 to 4 trees.

These small-plot experiments sacrifice some information on stand performance and sometime pose a thinning problem. But such designs are more sensitive and more efficient because they provide more information

(*Continued on page* 114)

*International Union of Forest Research Organizations.

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Three-drum S-333 in Memphis, Tenn. plant of Memphis Furniture Manufacturing Co. (above). Letter below from T. C. Faulk, superintendent, says in part:

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See the Yates-American extras up close and discover for yourself how much they mean to a profitable operation. Ask the Yates man to show you a Yates Endless-Bed Sander at work.

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WW-12

Genetics Review

(*Continued from page* 112)

for evaluation of genetic differences in relative growth rate, pest resistance, branch size, etc., at a lower cost which is within the limits of our genetics budget.

A project just getting started is the Michaux Quercetum. The Station and the Morris Arboretum of the University of Pennsylvania are active participants. Financial assistance has come from a trust fund left with the American Philosophical Society. Some 80 species of American oaks and additional exotics hardy in this area will be planted in a series of arboreta. Acorns and herbarium specimens are now coming in. Nursery observations will be made to test the purity of the seed. The arboreta, which will contain only pure species, will help to end the confusion in names, and will eventually provide germ plasm for controlled hybridization.

Reports on Other Genetics Activities

Foundation Correlates Work

• The Forest Genetics Research Foundation was instituted in 1951 by a small group of men impressed with the possibility of increasing timber production by application of the principles of genetics to forest tree improvements.

Officers are: James G. Eddy, president, Pacific Northwest lumberman and founder of the Eddy Tree Breeding Institute which later became the Institute of Forest Genetics; executive vice-president, Stephen N. Wyckoff, Berkeley, Calif.; regional vice-presidents, Northwest, Gordon D. Marckworth, College of Forestry, University of Washington, Seattle, Wash.; Lake States, Albert J. Riker, University of Wisconsin, Madison, Wis.; Northeast, Scott S. Pauley, University of Minnesota, St. Paul, Minn.; South, Vertrees Young, Gaylord Container Corp., Bogalusa, La.; secretary, Richard M. Leonard. The Foundation now has a board of 25 directors from all parts of the country, consisting of scientists, conservationists, bankers, and representatives of the lumber and pulp and paper industries.

The Foundation's general objective is to serve as a stimulus to research and education in forest tree improvement, particularly in its more technical aspects. It proposes to make grants-in-aid, where needed, to qualified institutions and individuals for research projects in forest tree improvement.

The Foundation can stimulate research by sponsoring conferences and seminars on topics of special interest to technical workers throughout the country; by encouraging and assisting in the development of interregional and international projects where common interests exist; and by assisting in development of special media for publication of research results.

The Forest Genetics Research Foundation proposes to support research projects in any part of the field of forest tree improvement, with first priority given to studies in forest tree breeding and forest genetics.

Another important part of the Foundation's organization is a technical committee composed of four board members recognized as leaders in their respective fields of plant science. This committee will be responsible to the board of directors for making research and educational grants.

Two research grants have been made, one to the Institute of Forest Genetics at Placerville, California, for a racial study of ponderosa pine and closely related species (primarily those with which ponderosa pine readily hybridizes.) The second grant was to assist the South-wide Pine Seed Source Study, sponsored by the Committee on Southern Forest Tree Improvement.

$4000 To Aid Studies

• A genetics study of Pacific Northwest Douglas fir will be undertaken at Oregon State College, Corvallis, Oregon, with a $4000 grant from the Forest Genetics Research Foundation at Berkeley, Cal.

Helge Irgens-Moller, graduate stud-

(*Continued on page* 117)

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- GRINDING HEADLIFT
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ADJUSTABLE BALL & ROLLER BEARING:
- CAM SHAFTS
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NEW HEAD (tri-mounted) WITH:
- AIRPLANE CABLE SUSPENSION
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ALL THESE FEATURES GUARANTEE HIGH PRODUCTION AT LOWEST COST

HALTON TRACTOR adds the NEW SKAGIT LINE

The SJ-4-RT, shown above, is typical of the Skagit products designed for the logging industry which Halton Tractor Co. will sell in northwest Oregon and southwest Washington.

HALTON TRACTOR CO., serving the logging industry in northwest Oregon and southwest Washington, has added the *new* SKAGIT line to better serve its logging customers.

The SJ-4-RT Mobile Logger is typical of the SKAGIT Products which HALTON TRACTOR CO. carries. Designed exclusively for the logging industry, the combination Yarder-Loader gives maximum production at low cost with a small crew.

The Mobile-Logger has a full-revolving, counterweighted upper unit equipped with a fast, live boom. It is a self propelled, rubber tired machine with dual tandem rear axles. Retractable hydraulic outrigger jacks set up quickly to give the SJ-4-RT level operation and to remove strain off the rubber.

Ideal for production jobs as a self-contained unit, the SJ-4-RT can be used for relogging, pre-logging, thinning, salvage, selective logging or on any job where frequent moves, easy handling and fast economical operation is desired.

HALTON TRACTOR carries a complete line of SKAGIT parts in all four store locations and offers complete service on the SKAGIT line of logging, construction, transportation and marine equipment.

OFFICES

PORTLAND—2439 N. W. 29th Avenue—CApitol 6-3511

SALEM—2355 Silverton Road—Phone 2-4161

ASTORIA—Youngs River Loop Road—Phone 2650

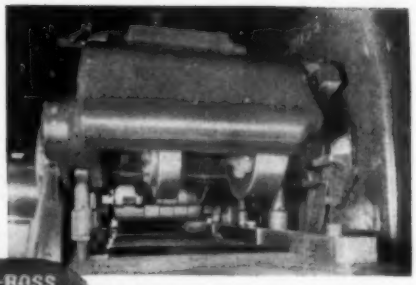
LONGVIEW, WASH.—1205 Baltimore Street—HAmilton 3-5760

HALTON TRACTOR

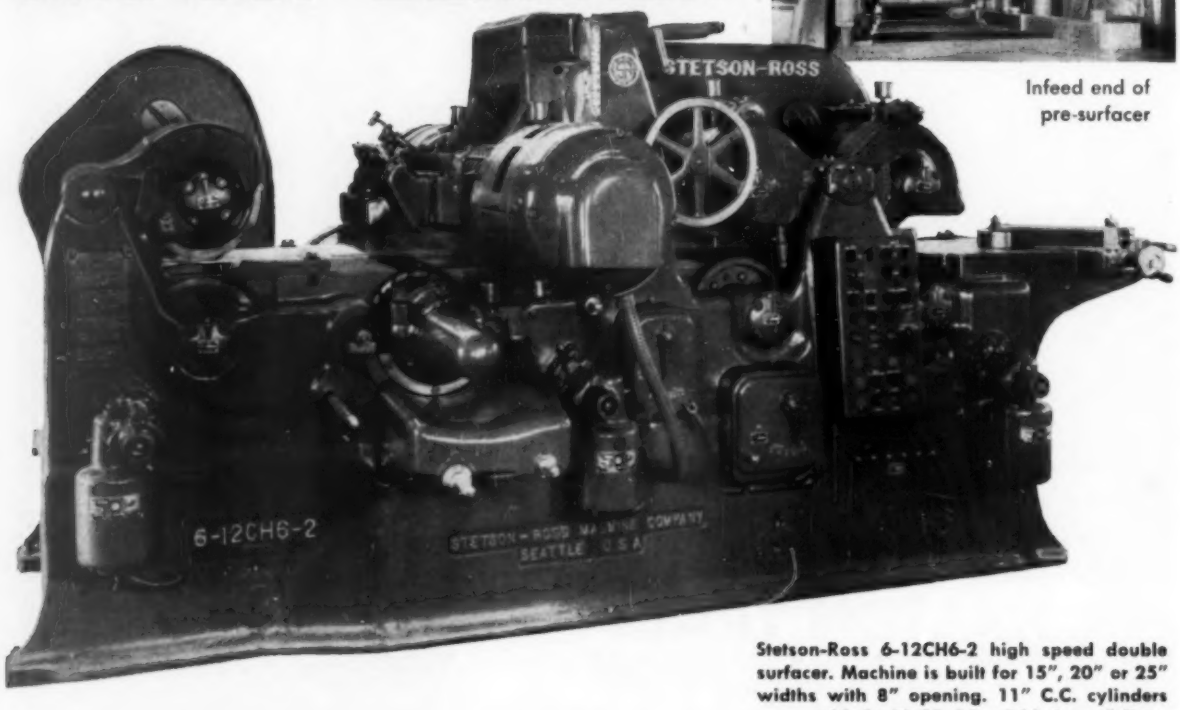
CATERPILLAR®

STETSON ROSS

PRE-SURFACER and CUP BLANKER



Infeed end of pre-surfacer



Stetson-Ross 6-12CH6-2 high speed double surfacer. Machine is built for 15", 20" or 25" widths with 8" opening. 11" C.C. cylinders are provided with 12, 14 or 16 knives. Adjustable, divided top infeed rolls and sectional pressure bar may be provided as shown for cup blanking. Solid or sectional top infeed rolls optional. Note vertical motors for rapid setting of top infeed rolls, top cylinder and top outfeed rolls.

FOR USE AT YOUR KILN-LOAD UNSTACKER

Pre-surfacing makes money for you in many ways. If you have trouble with cupped lumber splitting as it feeds through your planer and matcher rolls, the installation of a pre-surfacer with divided top infeed rolls will quickly pay for itself in lumber saved.

Pre-surfacing also enables you to accurately sort lumber for grade and re-manufacture for best end-use prior to finish planing.

RESULT: Increased yield of quality stock, fewer fall-downs, increased dry storage space, accurate inventories, fewer sorts in your planing mill. ELIMINATES run and re-run blanking in planing mill, and assures better utilization of grades.

USERS . . .

Stetson-Ross Pre-surfacers already in operation at:

Potlatch Forests, Inc.
Lewiston, Idaho (2 machines)

J. Neils Lumber Company
Libby, Montana

Intermountain Lumber Company
Missoula, Montana

Kirby Lumber Corporation
Silsbee, Texas (3 machines, without "cup blank" features)

Diamond Match Company
Redding, California (on order for their new integrated Forest Products Plant)

You are invited to write for information on saving lumber through pre-surfacing

STETSON–ROSS
MACHINE COMPANY INC
SEATTLE 4, WASHINGTON

EXPORT DIVISION:
301 CLAY ST., SAN FRANCISCO 11, CALIF.

Genetics Review

(*Continued from page* 114)

ent at OSC and a member of the OSC forest experiment station, will do the work. One of his studies will be to measure racial variation in Douglas fir and the inheritance of certain characteristics. Some of his present work is studying the genetic control of the date of bud-bursting of Douglas fir.

Irgens-Moller did his undergraduate work in Denmark. He was with the Cabot foundation for botanical research at Harvard university in forest genetics for two years before coming to OSC.

Seed Orchard Starts

• Manning Seed Company of Seattle, Washington, a commercial seed firm which has operated up and down the West Coast for 85 years, recently embarked upon a tree seed orchard project in western Washington, the first of its kind in the Douglas fir region. Company foresters made the first grafts in 1955. This year hundreds of cuttings from better-than-average Douglas fir trees have been grafted onto five-year-old firs in the orchard. These trees are arranged in rows so that they can be fertilized and cultivated with mechanical equipment.

The company expects that this orchard will be producing seeds in the early 1960's. Site of the orchard is south of Olympia in an unforested area selected for its isolation from wayward pollen.

F. E. Manning told THE LUMBERMAN he originally became interested in seed orchards in 1950 while attending the Scandinavian Forestry Congress in Denmark. He observed the grafting work the Swedes and the Danes were doing in Douglas fir and decided to see what could be done along similar lines within his own company. He made the acquaintance of Dr. Tore Arnborg, famous Swedish geneticist trained at University of Uppsala, Sweden, who has spent his lifetime work in practical forest improvement. This summer, Dr. Arnborg was in the U. S. on a temporary assignment for Manning Seed Co. The genetics work for Manning is under direction of research forester Bent Gerdes, who has a background of specialized training in Denmark.

With this Manning orchard well underway, as well as similar projects undertaken by Dr. J. W. Duffield on the Vail-McDonald Tree Farm of the Weyerhaeuser Timber Co. and the King Creek Tree Farm of St. Paul & Tacoma Lumber Co., devoted to production of a steady supply of better seed, the benefits of genetics to commercial forest industries are becoming readily apparent.

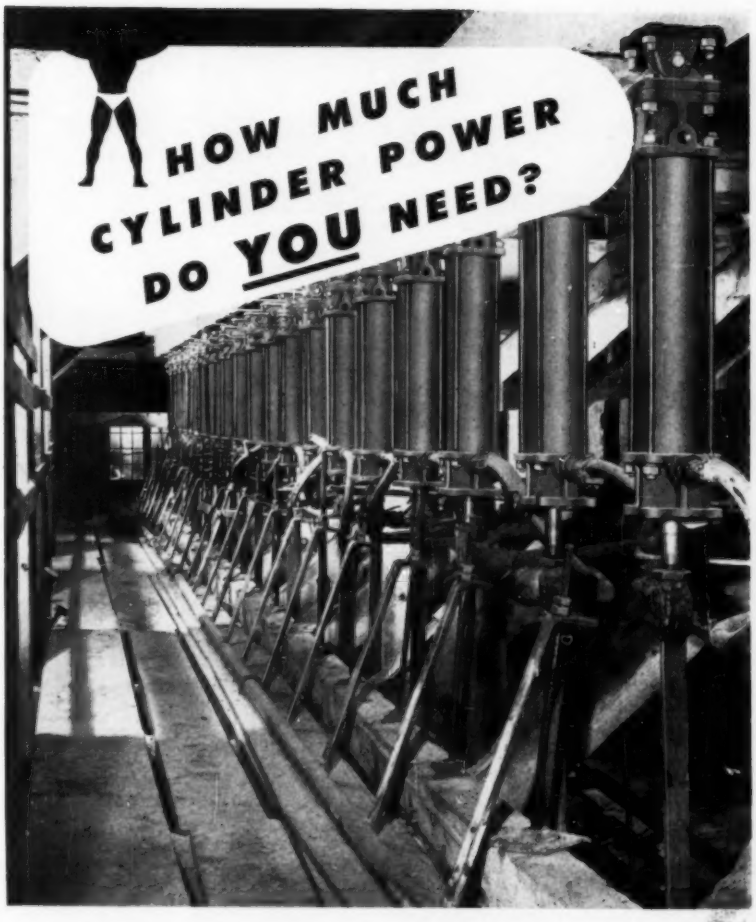
FS Studies Orchards

• In its third progress report, The Texas Forest Service, College Station, Texas, reports on work currently being done in tree improvement. The work is headed by Dr. Bruce Zobel.

There are thirteen active projects now underway. These include:

Genetics of wood specific gravity, tests of outstanding (superior) pine trees, development of drought-hardy strains of pine, regional cooperation in

(*Continued on page* 119)

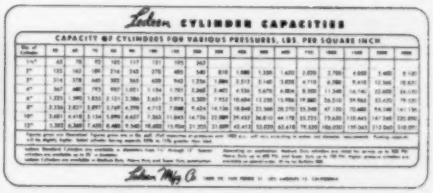


Cape Arago Lumber Co., Empire, Oregon, uses Ledeen CYLINDERS on gang trimmer

This battery of 4" Ledeen Cylinders has been giving dependable, trouble-free service on this gang trimmer for over 4 years. Low maintenance and long life are reasons why Ledeen Cylinders find wide acceptance and countless applications in the timber industry.

Standard cylinders available from stock in 1½" through 12" bores... Special cylinders up to 20". These cylinders offer a wide range of capacities to meet your power requirements.

HOW MUCH CYLINDER POWER DO YOU NEED?


Ledeen CYLINDER CAPACITIES
CAPACITY OF CYLINDERS FOR VARIOUS PRESSURES, LBS. PER SQUARE INCH

Send for this cylinder capacity chart. It will help you determine the size Ledeen Cylinder you need to meet your power requirements.

Write for Bulletin 500

VALVES • CYLINDERS
VALVE ACTUATORS
AIR-HYDRAULIC PUMPS
AND BOOSTERS

Ledeen Mfg. Co.
3336 North Gilman Road
El Monte, California

There's something new
in the tall timber

IT'S THE OLIVER OC-12
WITH POWER-TURN STEERING

POWER-TURN

Yes, with Oliver's amazing POWER-TURN you'll work faster and save money. You'll do it because you'll have *full power* on both tracks at all times. Think of it: full-time working power—with no loss of tractive force even on the sharpest turns. This extra productive capacity is yours with whatever attachments you may use—bull-dozers, angle dozers, winches or loaders. Not only do you have better control for every maneuver—but you also have *easier* control with finger-tip steering that means less fatigue and bigger production on every job. Only Oliver has POWER-TURN!

It's one of the most powerful crawler tractors of its class—ready to help you put extra speed and push into all kinds of tasks in the woods or around the mill. Available with a full choice of attachments. Oliver's extra high clearance lets you ride over rocks and stumps that force other crawlers to detour. Through soft, boggy ground or up steep hills you have the sure-footed traction that means more work per day.

Here's 53 drawbar h.p. for the tough road-building jobs. Among the new features on the OC-12 is the new over-center hand clutch with 33% larger area which doubles clutch life. It's impossible to ride this clutch. Also new is the easy-operating foot brake which requires only light pressure to hold the tractor on any grade. It frees operator's hands, increases over-all efficiency. Ask your Oliver distributor to demonstrate the new OC-12 today.

THE OLIVER CORPORATION
400 West Madison Street, Chicago 6, Illinois

OLIVER

A COMPLETE LINE OF INDUSTRIAL WHEEL AND CRAWLER TRACTORS AND MATCHED ALLIED EQUIPMENT

Genetics Review

(*Continued from page* 117)

a study of racial variation, tests of outstanding seedlings selected from nursery beds.

Physiology of Summerwood formation, vegetative propagation of loblolly pine, pine pollen (its collection, storage and testing) and seed orchard techniques, seed production area (operation, costs and yields).

Fiber length in loblolly pine, establishment of seed orchards for loblolly pine with high wood specific gravities and for superior loblolly pine trees, determination of relationship of initial specific gravity to final specific gravity and juvenile criteria for prediction of wood specific gravities.

Tests of superior trees have been carried on. First seed of some crosses will be available in October, 1956.

The study on development of drought-hardy strains of pine has shown that loblolly pine sources from Florida and North Carolina were poorest in survival, while Louisiana stock was intermediate. Best survival was obtained from sources in dry areas from the "Lost Pines" east of Austin, Texas, and the western edge of the Southern Pine region.

Three seed orchards have been established, one for production of drought-hardy loblolly pine, one for production of high specific gravity loblolly pine and one for production of seeds of superior trees.

Louisiana Co. Experiments

• Illustrative of tree improvement and forest genetics work being conducted in many places in the South is that of A. J. Hodges Industries, Inc., near Many, La. This experimental area was established for development of better pine trees for consumers and for study of fish and game wildlife.

The area consists of 4500 acres enclosed in an eight foot woven wire fence. The northern edge of the longleaf pine belt runs through this area.

One phase of the work includes fish and game management in cooperation with Louisiana State University, School of Forestry, Department of Fish and Game Research. Lakes have been stocked with various species of fish.

These are the problems being studied:

- Working with other interested parties on shortening the "grass stage" period of longleaf pine.
- Producing dense wood trees for the pulpwood industry.
- Seeking a "Superior Tree" that will combine rapid growth, high quality lumber, disease resistance and drought hardiness.
- Establishing an Arboretum. The company is collecting all of the some ninety-one species of pine in the world that will grow in Northwest Louisiana.
- Vegetative propagation. The company is working on the idea of rootings in greenhouse beds. Under ideal atmospheric and soil conditions in use are six different types of rooting mediums combined with various chemical and rooting hormone treatments, giving 21 different combinations of treatment.

(*Continued on page* 120)

"Handling time cut 80%
Storage space increased 60%"

SAYS E. A. STEWART
LUMBER CO., INC.
TEXARKANA, TEXAS

Three years ago, in an effort to improve the efficiency of its lumber handling operation, E. A. Stewart Lumber Company, Inc., turned to USS Gerrard Flat Steel Strapping. The resultant savings in time, labor, and money have been nothing short of sensational!

Here's what USS Gerrard Steel Strapping has accomplished:

✓ **Two men with a fork lift can now load a car with 25,000 feet of Gerrard palletized flooring in an hour and a half to two hours at the warehouse dock. Formerly, it took six hours for five men to load only one car. Labor savings can amount to as much as 25 dollars per car.**

✓ **Two men can load a truck with 16,000 feet of palletized flooring in 45 minutes or less. Previously, two men required four hours to load a truck, and of course, the truck, the driver, and the dock space were tied up for all that time. In fact, ten trucks can now be loaded in the time it previously took to load two.**

✓ **Due to tight, firm packaging by Gerrard Steel Strapping, warehouse storage space has been increased by 60%. Pallets can be stacked much higher and are still accessible to handlers.**

In addition, every bundle of Stewart flooring is standardized and uniform, and can be inventoried at a glance. And pilferage of lumber from Gerrard Strapped packages is virtually eliminated.

Why don't you investigate USS Gerrard Steel Strapping—Round and Flat? It might very well be the answer to your packaging or materials handling problem. Contact our engineers if you'd like some help in your selection. And send for the new GERRARD Blue Book of Packaging, now.

GERRARD STEEL STRAPPING DIVISION, UNITED STATES STEEL CORPORATION
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USS GERRARD
Round and Flat STEEL STRAPPING
UNITED STATES STEEL

Genetics Review

(*Continued from page* 119)

Crossett Aids Projects

• The greatest contribution made by The Crossett Company, Crossett, Arkansas, toward the furthering of forest genetics has been through direct subsidization of the research program at the Crossett Research Center of the Southern Forest Experiment Station. A sum of $30,000 was given to be used over a five-year period, enabling a program of research to be set up. This program has investigated racial variation, seed source, selection, hybridization, vegetative propagation, introduction of exotics, and various other miscellaneous projects in forest genetics.

From a practical aspect, the Crossett Forestry Division itself has been improving the quality of the forest through selection for almost twenty years, and in recent years with a more conscious consideration of the genetic characteristics of individual trees. During the last few years, and at present, detailed search has been made for superior trees to be used in vegetative propagation for the company's breeding experimentation.

In addition, plans are well laid for careful control of the genetic characteristics of all seed collected from company timber. A start has also been made in establishing a small seed orchard in which cuttings from genetically superior stock are grafted on ordinary seedlings. In future years, it should be possible, through practically applying what is known of forest genetics, to greatly improve the potential for growth and value.

California Research Moves

• In 1925 James G. Eddy of Seattle, Wash., founded the Eddy Tree Breeding Station at Placerville. Reorganized in 1932 as the Institute of Forest Genetics, this station was donated to the people of the United States in 1935. It has since been operated by the U. S. Forest Service as a unit of the California Forest & Range Experiment Station.

Main advances have been made by the Institute and its cooperators working exclusively in **Pinus**, including about 90 species. Among the Institute's early accomplishments (before 1935) were the establishment at Placerville of the Eddy Arboretum containing about 70 species of pine, the development of an excellent nursery technique, and the production of 9 hybrids, one of which outgrows all pines native to the Sierra Nevada. Later accomplishments include the following:

- Development of a highly effective technique for controlling pollination of pines under Sierra Nevada conditions.
- Important contributions to tree breeding theory.
- An analysis of the relation of seed size and seedling size to inherent vigor in pines.
- A study of elevational variation in ponderosa pine.
- A comprehensive study of the chemistry of pine oleoresins which has shed light on differences between various species in resistance to certain destructive insects.
- Development of methods for inducing polyploidy in pines through application of colchicine.
- Production of about 60 additional hybrids, some of which have performed well in nursery and field tests at Placerville and elsewhere. Two yellow pine hybrids have withstood forced attacks of insects and one white pine hybrid has resisted blister-rust infection in a test area over a period of 9 years.

South Pioneers in Work

• The Committee on Southern Forest Tree Improvement was organized in 1951. It now has 18 members representing a wide range of interests in ten states from Texas to North Carolina. It has no funds of its own but is associated formally with the Forest Genetics Research Foundation and has one member on its board of directors.

Guiding purposes of the Committee are:

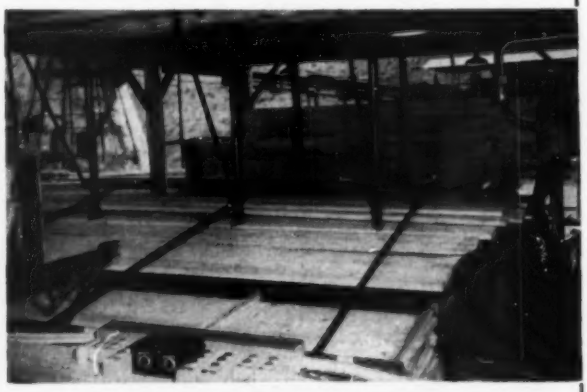
- To advise and assist interested agencies in arranging and conducting research and development programs.
- To provide a clearing house for information on forest tree improvement.
- To provide for or assist in coordination in the conduct of a South-wide program of tree improvement research and development.
- To foster and encourage the advance-

(*Continued on page* 122)

It's Better To Operate A Moore Stacker – Unstacker System *Than To Compete With One!*

If you are trying to meet today's competition with yesterday's methods and equipment, let us show you how a Moore Stacker-Unstacker System can reduce your costs.

In the illustration at the right notice the package being broken down into a solid sheath of lumber, and automatically being rebuilt into stickered unit packages for rapid, convenient handling in Moore Cross-Circulation Kilns.



Moore Stackers are designed for specific requirements, such as the unit package stacker at Salmon River Lumber Co., Riggins, Idaho, shown above.

Learn the cost-saving advantages of handling lumber the modern Moore Way. A system for the small, medium, or large mill. **Write today!**

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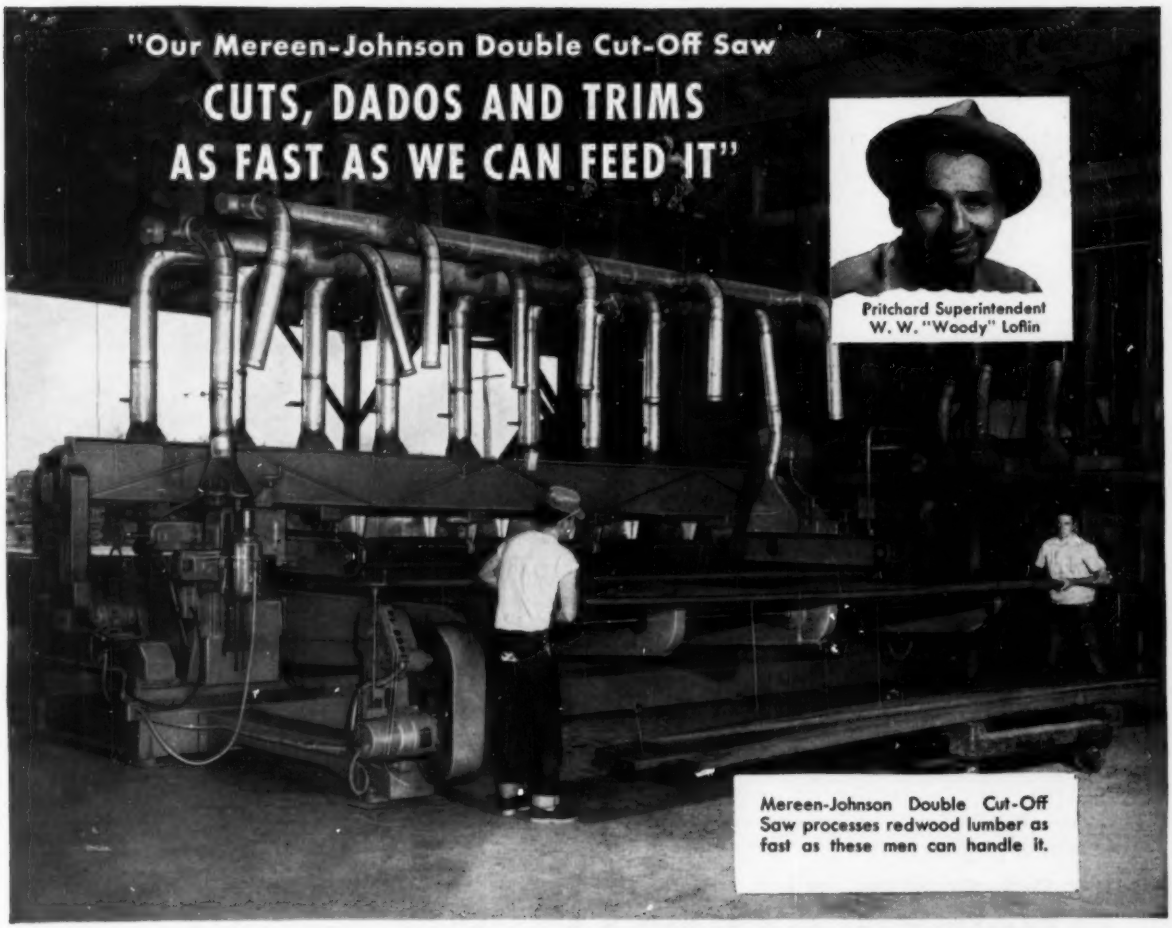

"Our Mereen-Johnson Double Cut-Off Saw
CUTS, DADOS AND TRIMS
AS FAST AS WE CAN FEED IT"
Pritchard Superintendent
W. W. "Woody" Loflin
Mereen-Johnson Double Cut-Off
Saw processes redwood lumber as
fast as these men can handle it.

M-J "300" Is Built For Speed

"The speed, versatility and capacity of our Mereen-Johnson Double Cut-Off Saw is so great that it performs most of the woodworking operations we need in the construction of our line of cooling towers."

Superintendent W. W. Loflin of J. F. Pritchard & Co. of Merced, California, describing the application of their custom-built M-J No. 300 says . . . "Due to the extreme versatility of our machine, it is being used, not only as a double cut-off saw, but also as a tenoner, trim saw and dado machine. It's an extremely efficient, well constructed, high speed piece of machinery.

"Because of the design and construction of the No. 300 it can perform most operations required in our factory. For example, it will cut both ends of a diagonal brace (at any angle) in just one pass. Using an ordinary radial arm cut-off saw, the same type brace requires four cuts and four set ups. The M-J No. 300 cuts these pieces as fast as we can feed them . . . often up to 1000 boards per hour.

"An important advantage of our M-J machine is the fact that it is automatically and electrically controlled, making set-up operations fast, accurate and easy.

"We also use our M-J No. 300 to notch or dado up to 20 slots in one piece of redwood. These notches vary in depth from ½" to 2⅝". For multiple cutting, we can cut one piece of lumber into several pieces of equal or varying lengths in one pass. The machine is also used for trimming bundles of lath and for cutting plywood sheets to exact dimensions.

"Our Mereen-Johnson No. 300 will cut pieces to lengths from one to twenty-one feet long . . . and it performs many other woodworking jobs too."

This top performance machine is custom-built to your application—large or small.

M-J Bulletin No. 300 fully describes every feature. Send for it now!

Mereen-Johnson MACHINE COMPANY

4401 LYNDALE AVENUE NORTH • MINNEAPOLIS 12, MINNESOTA

Genetics Review

(*Continued from page* 120)

ment of knowledge of southern tree genetics.

Twelve publications have been prepared through Committee cooperation and issued by the U. S. Forest Service, Region 8, the Southern or Southeastern Forest Experiment Stations or TVA. A newsletter is issued. A South-wide meeting on Forest Tree Improvement is held bi-anually, the last held in January 1955 in New Orleans, La.

The Committee has established the South-wide Pine Seed Source Study. The 66 test plantations include longleaf pine seed from 14 distinct geographic sources, slash pine from 6 sources, loblolly pine from 15 sources and shortleaf pine from 15 sources.

The Committee has established a Southern Regional Project "Forest Tree Improvement". Six southern states and the U. S. Forest Service are represented on the Technical Committee.

Tree Improvement research is being conducted in the South by the two U. S. Forest Service experimental stations, by several state agencies (including the Texas Forest Service and the Mississippi Forestry Commission, by a number of private companies, by the TVA and by several schools of forestry).

Station Studies Seeds

• The Southern Forest Experiment Station at New Orleans, La., conducts most of its fundamental reesarch at its branch, the Southern Institute of Forest Genetics. Some work is also being done at Station branches in Arkansas, Texas, Alabama, Louisiana, and other locations in Mississippi. Eight men on the staff devote all or part of their time to genetics research.

The third-year examination of the 57 original plantations in the Southwide Pine Seed Source Study was begun in November 1955. Early returns from the third-year examination indicate striking racial differences in survival and growth rate of loblolly and of shortleaf pines, and in resistance of loblolly pine to fusiform rust. Results with all four species studied should justify preliminary publication in 1956.

After 5 years in south Mississippi plantation, surviving loblolly pines from Louisiana seed show lower percentage of fusiform rust infection than pines from seed collected farther east. The percentage of infected seedlings, by sources, are: North Carolina, 34; South Carolina, 29; Georgia, 40; Alabama (two sources), 42 and 44; and Louisiana, 20.

CROSSETT RESEARCH CENTER is expanding a study designed to show how far from Crossett, in all directions, loblolly pine seed from the Crossett area may safely be substituted for strictly local seed in establishing plantations. To date, 42,000 seedlings representing 88 lots of Crossett and other loblolly seed have been established in 15 plantations by 17 cooperators in 6 States.

One of the Station's most valuable assets for southern tree breeding purposes is the 23 acres of longleaf, slash, loblolly, and shortleaf pine plantations established at Bogalusa, Louisiana, during 1922-1926 on lands of the Gaylord Container Corporation.

Of particular importance for forest genetics research is the fact that several hundred of the best seedlings were designated, when 2 to 6 years of age, as potential breeding trees. This year, the Gaylord Container Corporation began making complete 30-year remeasurements of all trees, and Station personnel selected about 250 of the pines for their present outstanding quality or usefulness for special research.

Twenty loblolly pine "plus trees" have been selected on lands of The Crossett Company, Fordyce Lumber Company, Ozark-Badger Lumber Company, and the Askansas A and M College.

The Southern Institute of Forest Genetics started the first of several contemplated special-purpose arboreta. Seven species and two hybrids of southern pines and five species of exotic pines—479 trees in all—were planted, primarily to develop breeding stock. Other planned arboreta include a broadly representative collection of geographic races of each of 8 or 9 species of pine native to the South; a collection of especially promising hybrid seedlings and of grafted or rooted stock from promising hybrids and individual-tree selections; and a collection of oddities and freaks useful in studying the mode of inheritance of individual characters of pine.

Poplars Tried in B. C.

• High hopes are held for the success of a long-term poplar planting program which has been initiated by West Tree Farms, Ltd., Vancouver, B.C.

The company started in a modest way seven or eight years ago to develop a plantation of poplars from seedlings imported from Europe, and this concept is gradually being enlarged so that within a few years a commercial forest may be made accessible to operating companies.

Pit Desjardins has been supervising the program for the company, and Dr. George Allen, dean of forestry at the University of British Columbia, and his staff have been co-operating.

POPLAR SEEDLINGS have been imported from the Rhineland in Germany, from Denmark and Sweden. No imports have been made from the Po valley in Italy, where fantastic results have been reported, because of the difference in temperature.

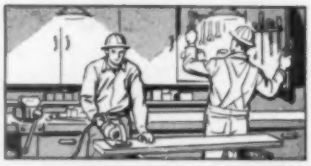
Alexander Koroleff, forest consultant to the Pulp and Paper Research Institute of Canada, wrote THE LUMBERMAN recently that a yield of five to seven cords per acre of hybrid poplar has been produced in the Po valley, and that production of about 500 cubic feet of wood per year per acre in Italy is not unusual.

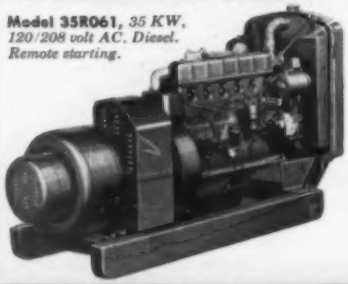
Establishment of poplar stands in British Columbia is not as simple as it might seem. Available suitable land is scarce because it must be well irrigated and drained and poplars do not thrive in country where the predominant stands have been Douglas fir. However, the company feels that it is well worth while to proceed with the operation, slowly at first and profiting by the mistakes that may be made.

(*Continued on page* 124)

KOHLER Electric Plants

Independent power for all logging camp needs





Model 35R061, *35 KW, 120/208 volt AC. Diesel. Remote starting.*

Heavy-duty, 35 KW Kohler Diesel Plant provides reliable, 'round-the-clock electricity for outdoor and indoor lighting, floodlights, work-shop power tools, construction equipment, communications, refrigeration, all other work camp requirements . . . Also available are 10 and 15 KW Diesel models, AC and DC—and gasoline models from 500 watts to 35 KW. Write for folder K-4.

Kohler Co., Kohler, Wisconsin
Established 1873

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AIR-COOLED ENGINES • PRECISION CONTROLS

Hammond Lumber Co.'s Type 802 is shown at work near Lebanon, Oregon. Precision lifting and loading is easy . . . even with extreme loading weights on the special logging boom.

Hammond Lumber Co. reports . . .
"Top performance from our LIMA log loader"

"Performance of our crawler mounted Lima log loader has been perfect for our needs," reports Hammond Lumber Company. "Considerable investigation of available makes showed us that Lima's design promised the ruggedness and dependability we needed for extreme log loading weights. In actual service, the machine has easily handled our toughest log loading jobs . . . without excessive downtime."

Take a tip from Hammond Lumber Company! Depend on Lima quality to guarantee *you* peak performance, minimum downtime on every job. See your nearby Lima distributor, or write Construction Equipment Division, Baldwin-Lima-Hamilton Corporation, Lima, Ohio.

COMPARE QUALITY! No other machine gives you as much as LIMA!

1. Piston-ring-type dirt seals and retainers in crawler rollers.
2. Moving parts are flame or induction hardened for longer life.
3. Main machinery is placed well back of center of rotation.
4. Anti-friction bearings at all important bearing points.
5. Big capacity drums and sheaves are easy on cables.
6. Torque converter (optional).
7. Wherever you are, you can depend on skilled service and nearby warehouse stocks of parts to keep your LIMA on the job continuously.

COMPARE and you'll specify LIMA for shovels (½ yd. to 6 yds.), cranes (to 110 tons) and draglines (variable). Smaller capacities available on rubber.

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Construction Equipment Division — LIMA WORKS

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1932 First Avenue South
Seattle, Washington

Evans Engine & Equipment Company
1230 Westlake North
Seattle, Washington

Feenaughty Machinery Company
112 S.E. Belmont Street
Portland 14, Oregon

Feenaughty Machinery Company
600 Front Street
Boise, Idaho

Dietrich-Collins Equipment Ltd.
890 S.W. Marine Drive
Vancouver, B. C., Canada

Modern Machinery Co., Inc.
4412 Trent Ave.
Spokane 2, Washington

Cascade Industrial Supply
Highway 99, So.
Redding, California

Wash. Forestry Conference

(*Continued from page* 90)

Cornelius, the logging manager for J. Neils Lumber Co., Klickitat, Wash., George A. Herion reported on the specific damage done to trees by porcupines.

He said that even after keeping records of porcupine damage for the last 18 years there is still a great deal to learn about these tree-killers. He said he believed research, education and control will "do the job."

Mr. Herion said there are two big reasons why porky damage has increased so rapidly in recent years: (1) opening up stands with roads and logging trails has made it easier for the porky to travel over wide areas at less effort and (2) many natural enemies of the porky have been greatly cut down in numbers.

He forwarded the idea of a central agency to disseminate information on porcupine, and he asked for more cooperation on control work.

Dean Gordon D. Marckworth, college of forestry, University of Washington, was re-elected president, and William H. Larson, Wash. State Forest Fire Assoc., secretary-treasurer. New trustees elected were: Bruce Looney, Northern Pacific Railway Co.; R. V. Backstrom, Great Northern Railway; John Allen, Bloedel Timberlands Development; Gordon Grayum, West Tacoma Newsprint Co.; Kenneth Murdock, Pacific Northwest Loggers Association; and Hamilton Owen, Spokane Chamber of Commerce.

Russia Presents Challenge

• Despite its backwardness in some technical aspects, Russia presents a real challenge to the forest industry of the West, according to H. R. MacMillan, director of MacMillan & Bloedel, Vancouver, B. C., and W. J. Leclair, Ottawa, manager of the Canadian Lumbermen's Association.

"Russia may virtually put us out of the lumber export business unless we take effective steps to meet this competition", warned Mr. MacMillan, whose chief forester, Angus MacBean, was a member of the Canadian lumbermen's delegation to Soviet Russia this summer.

Mr. Leclair, who was also with the delegation, said that what he saw in Russia's forest industry was "thoroughly frightening".

Russia, said Mr. Leclair, "is spending immense amounts of money on its forests. In the last five years Russia has completely reorganized the industry, changed it from a seasonal to an all-year-round operation, built permanent village communities for woods work, installed central power stations and completely mechanized logging."

The BROOK is the motor you can INSTALL AND FORGET!!

Because it is no ordinary motor—the stator, rotor, windings, electrical varnish used and the bearings are designed and selected to give long, trouble-free service under the toughest conditions. Yet, BROOK MOTORS cost no more than ordinary motors—usually they cost less. No wonder so many mills, gins, quarries, factories, petroleum producers and others using BROOK MOTORS praise them so highly. Send for construction feature Bulletin 827.

Open Drip Proof (shown), Totally Enclosed Fan Cooled, Totally Enclosed Non-Ventilated, NEMA "C" and "D" Flange, Extended Shaft Pump Motors, Special Motors, Squirrel Cage or Slip Ring, stocked in a wide range of sizes.

FAST DELIVERY OF ALL POPULAR MODELS:

Brook Motors are available from warehouse at Chicago, Dallas, Jersey City, Los Angeles, Memphis, St. Paul, Salt Lake City, San Francisco, Savannah, Seattle, Tampa, and other major distributing points.

SINCE 1904

BROOK MOTOR CORPORATION

BROOK MOTOR CORPORATION
3553 W. PETERSON AVE., CHICAGO 45, ILL.

Genetics Review

(*Continued from page* 122)

It has been estimated that poplar thinnings would be available for pulp processing in ten or fifteen years after planting. Mature logs for plywood would be obtainable in 25 to 30 years. Many thousands of acres of plantation would eventually be required to maintain the type of operation contemplated.

Forest Genetics Institute

• The Southern Institute of Forest Genetics, established in early 1955, is a branch of the Southern Forest Experiment Station, Forest Service, U. S. Department of Agriculture. It replaces the former Gulfcoast Research Center. Offices are maintained in Gulfport, Mississippi, and the field headquarters and laboratories are on the Harrison Experimental Forest near Saucier, Mississippi.

The general objectives of the Institute are to investigate fundamental forest genetic problems, the solution of which would be useful regionwide; to conduct forest tree improvement studies of an applied nature, particularly those adapted to southern Mississippi and southeastern Louisiana; and to cooperate to the fullest extent with private, State, and other federal agencies in furthering knowledge of forest genetics through research and in applying that knowledge to the betterment of our southern forests. Though the major emphasis of work at the Institute will be on forest genetics, selected forest management and regeneration studies will be continued.

The Harrison Experimental Forest, located on the Biloxi Ranger District of the DeSoto National Forest, was established in 1939. Its 4,000 acres more or less typify the 3 million acres of cutover and second-growth forest land in southern Mississippi and the 30 million acres of forest land in the South with similar soils and topography. In addition to its being the field headquarters of the Southern Institute of Forest Genetics, it is also used by two other units of the Southern Forest Experiment Station: the Forest Insect Laboratory, and the Wood Products and Tree Disease Laboratory.

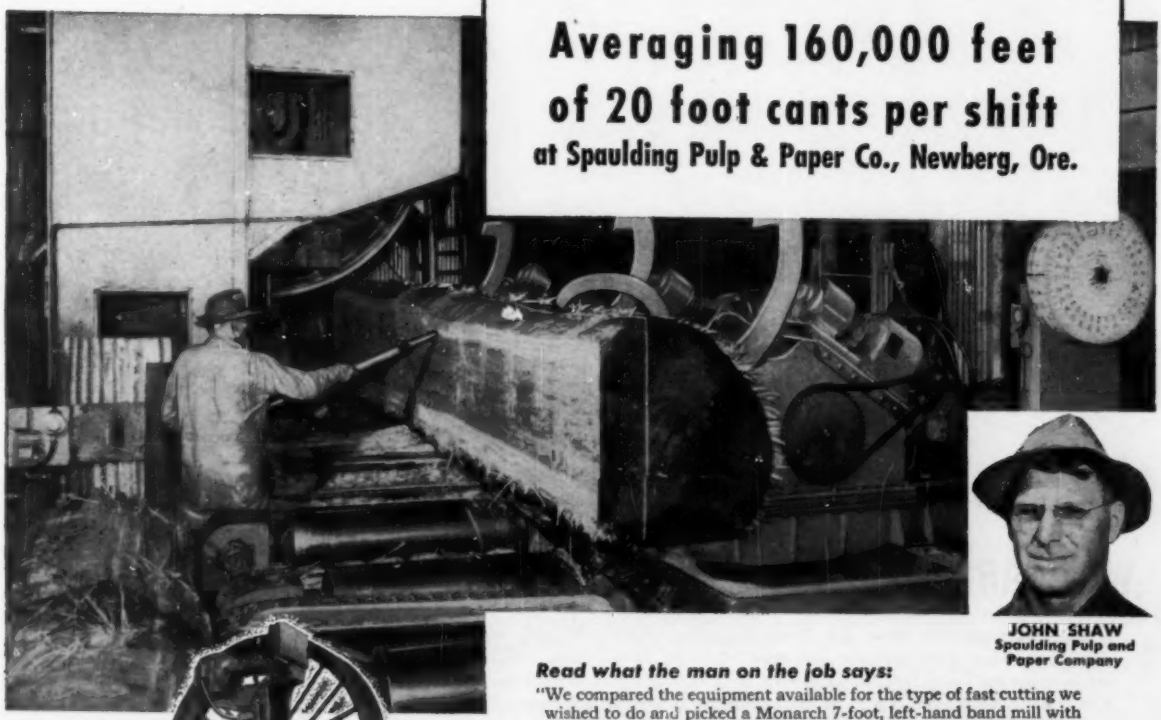
Tree Farm Certified

• Certification of Weyerhaeuser Timber Company's new Wynoochee Tree Farm in September means 62,000 acres of Grays Harbor County forestland will be brought under more intensive forest-management to provide a continuous supply of logs for mills in the Twin Harbors.

The Wynoochee Tree Farm includes industrial forestlands in the Satsop, Wynoochee, Wishkah and East Hoquiam areas of Grays Harbor county. It includes land formerly owned by both the Simpson Logging Company and Schafer Brothers Logging Company.

The three tree farms which now make up Weyerhaeuser's Pacific region are in the Clemons Operation. They cover approximately 337,000 acres of forestland in Grays Harbor and Pacific counties.

This 5 second operation has been repeating itself for 3 years...



Averaging 160,000 feet of 20 foot cants per shift
at Spaulding Pulp & Paper Co., Newberg, Ore.

JOHN SHAW
Spaulding Pulp and Paper Company

Read what the man on the job says:

"We compared the equipment available for the type of fast cutting we wished to do and picked a Monarch 7-foot, left-hand band mill with a Monarch sawyer-controlled carriage.

We use the Monarch carriage-band mill team to cut logs over 22 inches and logs that are unusually rough.

To date, the Monarch pair has carried and cut some 160,000 feet of 20-foot cants with a minimum loss of maintenance time during any working shift since installation three years ago.

I personally think that's a pretty fair record. We know now that Monarch rigs can handle the heaviest kind of fast cutting—without strain on either the operator or equipment."

JOHN SHAW, Spaulding Pulp and Paper Company

FIVE TO NINE-FOOT BAND MILLS

There is a Monarch band mill to fit your requirement! Your choice of 5-, 6-,7-, 8- or 9-foot size is built from a standard production pattern, but expressly engineered for your special assignment.

Motorized, super-sensitive, knife-edge straining device with limit switch insures the proper straining of saw.

Rigid strength guaranteed by heavy steel fabricated column and base.

Wheels are cast iron, carefully balanced.

Bearings are SKF self-aligning. Spherical roller bearings are used on arbors.

Adjustable steel bearing housings are arranged for quick, efficient alignment.

Arbors are heavy, high-quality forged steel.

SAWMILL MACHINERY
LOGGING MACHINERY
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Monarch
Forge & Machine Works Inc.

2130 N.W. York St. Portland 10, Ore.

MONARCH FORGE AND MACHINE WORKS, INC.
2130 N.W. York Street, Portland 10, Oregon

Gentlemen: Please send me additional literature on

Bandmills ☐ Carriages ☐ Line Bar Resaws ☐ Resaws ☐

Name_____

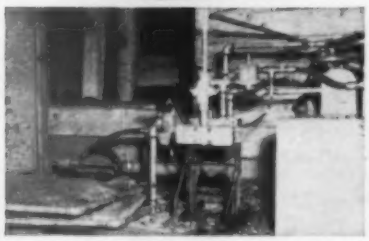
Address_____

City_____ Zone____ State_____

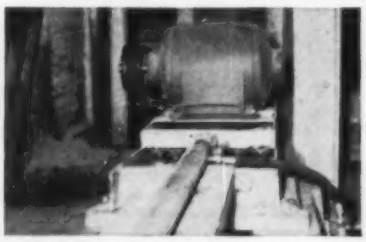
Interior view of the Union Mill operation shows Wheland Edger equipped with Aeroquip Hose Lines.

Union Mill Company Cuts Downtime with Aeroquip Flexible Hose Lines

Using Aeroquip Bulk Hose and Reusable Fittings, Union Mill Company of Arlington, Washington, replaces damaged hydraulic lines quickly. When a replacement line is needed, Aeroquip Hose is cut to length and fittings attached with ordinary shop tools. There's no large inventory of hose assemblies to stock. Only a few coils of Aeroquip Bulk Hose and some spare reusable fittings meet all hose line replacement needs. Call the Aeroquip Distributor listed in your Yellow Page Phone Book or write us for full information about this time-saving idea.



Aeroquip Flexible Hose Lines are used on hydraulic conveyor controls.



Automatic cut-off saw has Aeroquip Lines on hydraulic carriage.

Aeroquip

REG. TRADEMARK

AERO-COUPLING CORPORATION

(A Subsidiary Of Aeroquip Corporation)

3015 Winona Avenue, Burbank, Calif.

SALES OFFICE AND WAREHOUSE FOR OREGON, WASHINGTON AND IDAHO:

SPARKS-WILLS, INC., 1624 S. E. GRAND AVE., PORTLAND 15, ORE.

Log & Lumber Prices

Columbia River Log Prices

Douglas Fir Peelers: No. 1 $114-119; No. 2 $104-109; No. 3 $91-96.
Douglas Fir Sawlogs: No. 1 $68-73; No. 2 $56-61; No. 3 $49-54.
Hemlock: Peelable $64-69; No. 1 $55-60; No. 2 $44-49; No. 3 $40-45.
White Fir: Peelable $59-64; No. 1 $55-60; No. 2 $42-47; No. 3 $40-45.
Noble Fir: Peelers $60-65; No. 1 $55-60; No. 2 $44-49; No. 3 $41-46.
Cedar: No. 1 $68-73; No. 2 $44-49; No. 3 $35-40.
Spruce: Select $103-108; No. 1 $81-86; No. 2 $58-63; No. 3 $46-51.

Grays Harbor Log Prices

Douglas Fir Peelers: No. 1, $108-113; No. 2 $98-103; No. 3 $79-84.
Douglas Fir Sawlogs: No. 1 $58-63; No. 2 $53-58; No. 3 $42-47.
Hemlock: Peelable $56-61; No. 1 $50-55; No. 2 $39-44; No. 3 $37-42.
Cedar: No. 1 $89-94; No. 2 $48-53; No. 3 $36-41.
Spruce: Select $88-93; No. 1 $63-68; No. 2 $45-50; No. 3 $43-48.
White Fir: Peelable $56-61; No. 1 sawlogs $51-56; No. 2 $39-44; No. 3 37-42.

Puget Sound Log Prices

Douglas Fir Peelers: No. 1 $112-117; No. 2 $102-107; No. 3 $85-90.
Douglas Fir Sawlogs: No. 1 $65-70; No. 2 $52-57; No. 3 $44-49.
Hemlock: Peelable $41-46; No. 1 $51-56; No. 2 $42-47; No. 3 $41-46.
White Fir: Peelable $55-60; No. 1 $51-56; No. 2 $44-49; No. 3 $41-46.
Noble Fir: Peelable $73-78; No. 1 $57-62; No. 2 $47-52; No. 3 $43-48.
Cedar: No. 1 $90-95; No. 2 $52-57; No. 3 $37.42.
Spruce: Select $87-92; No. 1 $62-67; No. 2 $42-47; No. 3 $38-43.

British Columbia Log Market

Reported by C. D. Schultz & Co., Ltd., Vancouver, B. C., consulting foresters and engineers.
(Log prices are per thousand feet board measure.)

FIR — Log stocks constant, demand steady on good coast logs but very weak on lower grades. Price range continues at $55.00 to $65.00 for No. 3's, $65.00 to $75.00 for No. 2's, and $75.00 to $85.00 for No. 1's. Peeler price range $85.00 to $95.00 for No. 3's, $95.00 to $105.00 for No. 2's, and $105.00 to $115.00 for No. 1's.

CEDAR — Log stocks fairly constant, demand continues weaker. Price range now $37.50 to $47.50 for No. 3's, $47.50 to $57.50 for No. 2's, and $70.00 up to $80.00 for No. 1's. Lumber Cedar price range $60.00 to $70.00 for No. 2's, and $70.00 to $80.00 for No. 1's. Tie Cedar price range $35.00 to $45.00.

HEMLOCK & BALSAM—Log stocks down slightly with demand steady. Price range $40.00 to $50.00 for No. 3's, $47.50 to $57.50 for No. 2's, and $55.00 to $65.00 for No. 1's. Balsam price range $37.50 to $47.50. Lumber or Peelable Balsam $50.00 to $60.00.

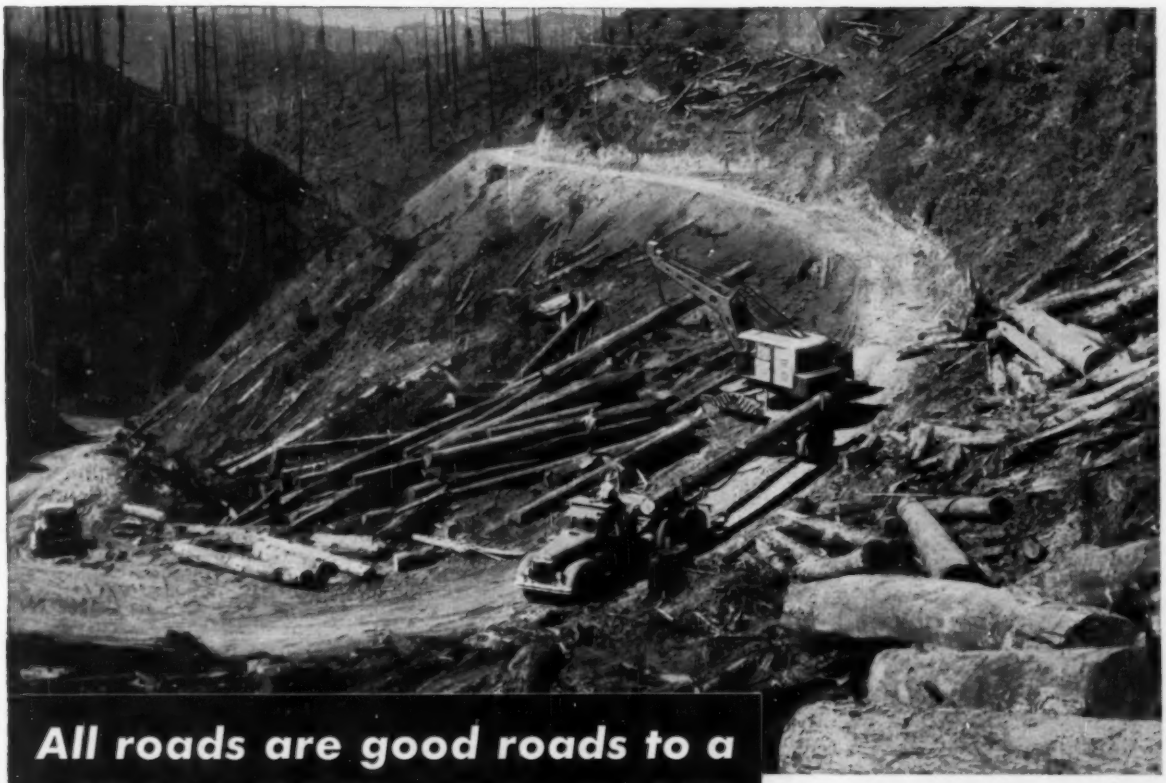
• Douglas Fir Plywood

¼" AD SO1S .....$67-72/M sq. ft.

• Douglas Fir Lumber Prices

1x8 Utility S4S KD	$ 55- 60.00
2x4 Construction Dimension S4S KD	86- 88.00
1x4 C&Btr VG Flooring KD	170-175.00
1x6 C&Btr Drop Siding KD	158-163.00
1x6 C&Btr S4S KD	170-175.00
1x8 C&Btr S4S KD	170-175.00
1x10 C&Btr S4S KD	175-180.00
1x12 C&Btr S4S KD	215-220.00
CONSTRUCTION Timbers and Plank	
3x12 6-20'	$ 87- 90.00
3x12 22-24'	92- 95.00
3x12 26-32'	100-105.00
4x4 8-20'	88- 91.00
4x4 22-24'	93- 96.00
4x4 26-32'	101-106.00
6x6 8-20'	86- 89.00
6x6 22-30'	91- 94.00
6x6 32-40'	106-109.00
8x8 8-20'	84- 87.00
8x8 22-30'	89- 92.00
8x8 32-40'	104-107.00
6x10, 8x10, 10x10, 12x12— 8-20'	84- 87.00
6x10, 8x10, 10x10, 12x12—22-30'	89- 92.00
6x10, 8x10, 10x10, 12x12—32-40'	104-107.00
Crossties	64- 67.00

(*Continued on page* 128)



All roads are good roads to a LORAIN MOTO-LOG LOADER

Firchau Bros. Logging Co. of Lebanon, Oregon, is using a new 25-ton Lorain Moto-Log Loader, model MC-425, on its Douglas County show. The Lorain is used to load trucks from roadside landings and to snake logs short distances. The photo above tells the story of winding, steep roads, and unfinished grades, but the Lorain negotiates such adverse road conditions with ease, moving quickly to any landing at any location.

More and more loggers are lowering loading costs with these mobile Lorain Moto-Log Loaders because in addition to their "loadability", they have the power and tractive effort for real "roadability". The operator of this machine states the Lorain works better along roads than the other machines in their operations . . . that the Lorain is efficient and has plenty of power. *Firchau Bros. Logging Co. has repeated with Lorains four times* — proof of satisfactory, money-making performance.

LORAIN FEATURES LOGGERS LIKE

To lick adverse travel conditions, this Lorain MC-425 Moto-Log Loader uses big, multiple tires with the flotation to stay on top of soft ground. Rear rocker beams and parallel Torque Rod system keep the Lorain going over even the roughest terrain. The straight-line through-drive provides maximum traction at all times—torque is always transmitted to the axle with tractive ability. The Thew-designed and built carrier is engineered for the stresses and strains of log-loading duty. It has 10 forward speeds, up to 27 m.p.h., to take it from landing to landing—fast. Hydraulic power-assist steering is available for ease of handling. Within the turntable more features are available such as, "Shear-Ball" mounting, eliminating center pin and rollers with their attendant maintenance . . . anti-friction bearings on hoist and swing drums . . . "E-Z" action hoist clutches—to add further to smooth operation, good performance and long life.

7	8	10	15	17½	22½	25	30	35	75

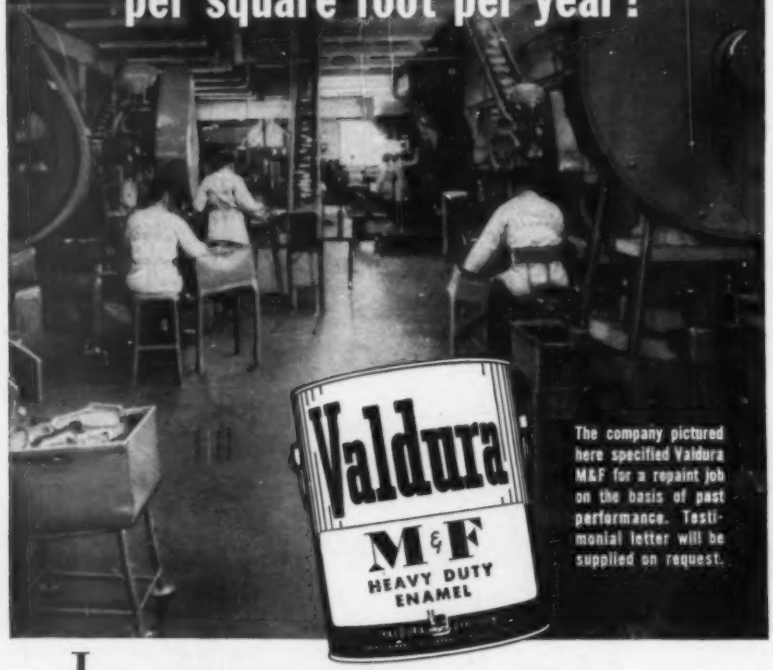
From 7 tons to 75 tons—a range of 10 lifting capacities . . . that is the selection available in the Lorain.

Your Thew-Lorain Distributor *can help you analyze your log loading needs, discuss haul road conditions and show you how Lorain Moto-Log Loaders can step up production and lower costs. He also offers crawler-mounted types in capacities up to 61 tons. Call your Thew-Lorain Distributor before you plan your log loader purchase!*

THE THEW SHOVEL CO.
Lorain, Ohio

THEW LORAIN®

HOW MUCH
does your maintenance enamel cost per square foot per year?



The company pictured here specified Valdura M&F for a repaint job on the basis of past performance. Testimonial letter will be supplied on request.

Industrial accounts which figure maintenance costs carefully on a cost-per-square-foot-per-year basis acclaim M & F as the most economical enamel they have used. But economy is only one of its virtues. Consider these following qualities of M & F when you're ready to place your next order for an industrial maintenance enamel:

- More *resistance* to abrasion
- Super *washability*
- 22 sparkling, *non-fading* industrial colors
- Superior for both *interior* and *exterior* use
- Perfect for *many jobs* . . . floors, walls, woodwork, machinery, etc., etc.

If you'd like to know more about M & F and other items in Valdura's complete line of specialized maintenance products, or if you'd like help with a particular problem, just state your wishes on your regular letterhead and mail to the address below. *Your inquiry will be treated as an invitation to provide service . . . not as a license to exert selling pressure!*

VALDURA PAINTS THAT ENDURE

VALDURA HEAVY DUTY PAINT DIVISION
AMERICAN-MARIETTA CO.
101 E. Ontario St., Chicago 11, Ill.

CONSTRUCTION Dimension (Green)

2x4	6-24′	$ 71-	74.00
2x6	6-24′	72-	75.00
2x8	6-24′	71-	74.00
2x12	6-24′	72-	75.00

STANDARD & Btr. Boards (Green)

1x4	6-20′	$ 54-	57.00
1x8	6-20′	67-	70.00
1x12	6-20′	65-	68.00

• Red Cedar (industry standard) Shingles

Royals			
No. 1	24″	4/2	$15.50
No. 2	24″	4/2	9.50- 10.50
No. 3	24″	4/2	5.00
Perfections			
No. 1	18″	5/2¼	12.50
No. 2	18″	5/2¼	7.00
No. 3	18″	5/2¼	3.50- 4.75
XXXXX			
No. 1	16″	5/2	10.50
No. 2	16″	5/2	5.50
No. 3	16″	5/2	3.50- 4.00

• Western Pine Prices

The following F.O.B. mill prices, based on Past Sales, were reported to the WESTERN PINE ASSOCIATION by members during the period 10-15 to 10-27-56 inclusive. Both direct and wholesale prices are included and are based on specified items only. They are for dry surfaced lumber.

PONDEROSA PINE

SELECTS S2 or 4S	4/4RW	5/4RW	6/4RW
C Select RL	$260.63	$267.71	$260.58
D Select RL	200.17	214.11	201.97
SHOP S2S	No. 1	No. 2	
5/4	136.95	104.89	
6/4	136.98	104.50	
COMMONS S2 or 4S	No. 2	No. 3	
1 x 8″ RL	98.39	70.36	
1 x 12″ RL	110.87	70.99	
4/4 No. 4 Common S2 or 4S	56.82		

IDAHO WHITE PINE

SELECTS S2 or 4S	4/4RW	6/4RW	
Choice (C) RL	284.27	290.00	
Quality (D) RL	206.63	263.56	
	Colonial	Sterling	Stand.
COMMONS S2 or 4S	No. 1	No. 2	No. 3
1 x 8″ RL		152.24	101.15
1 x 12″ RL		163.21	102.65
4/4 UTILITY (No. 4) S2 or 4S RW&L	63.71		

SUGAR PINE

SELECTS S2 or 4S	4/4RW	5/4RW	6/4RW
Nos. 1 & 2 Clear RL	287.19	292.45	288.33
C Select RL	277.53	280.74	278.49
D Select RL	228.17	238.51	233.43
SHOP S2S	No. 1	No. 2	No. 3
5/4	146.33	108.05	75.59
6/4	138.91	106.93	75.09
8/4	156.23	112.70	76.50

LARCH - DOUGLAS FIR

4/4 No. 3 Common S2 or 4S	69.84
2 x 4 No.1 Dimension RW&L	84.18
2 x 4 No. 2 & Btr. Dimension RW&L	70.29

• Southern Pine Prices (KD Stock)

Vertical Grain Flooring	BB	C	D	
1x4 Heart	230.00	215.00	160.00	
Flat Grain Flooring				
1x4	160.00	150.00	120.00	
1x6	175.00	165.00	125.00	
Drop Siding				
1x6 No. 106	191.00	170.00	130.00	
No. 116	191.00	170.00	130.00	
Boards & Shiplap	1x6	1x8	1x10	1x12
No. 1	130.00	127.00	127.00	180.00
No. 2	81.00	88.00	85.00	98.00
No. 3	72.00	80.00	76.00	74.00
No. 1 Dimension	12	14	16	18	20
2x4	100.00	100.00	102.00	118.00	123.00
2x6	98.00	101.00	99.00	115.00	120.00
2x8	99.00	96.00	96.00	115.00	120.00
2x10	108.00	105.00	107.00	120.00	135.00
2x12	130.00	122.00	120.00	145.00	150.00
No. 2 Dimension					
2x4	94.00	94.00	98.00	107.00	112.00
2x6	88.00	92.00	90.00	100.00	105.00
2x8	89.00	87.00	87.00	97.00	105.00
2x10	92.00	94.00	92.00	105.00	109.00
2x12	95.00	95.00	95.00	115.00	120.00
No. 3 Dimension					
2x4	76.00	76.00	80.00	86.00	91.00
2x6	73.00	74.00	74.00	80.00	85.00
2x8	75.00	75.00	73.00	75.00	80.00
2x10	71.00	76.00	71.00	76.00	81.00
2x12	70.00	70.00	70.00	77.00	82.00

Only CARY-LIFT Operates Under ALL Weather Conditions

...because only CARY-LIFT has these exclusive features:

✓ 4 WHEEL DRIVE

✓ HIGH FLOTATION TIRES

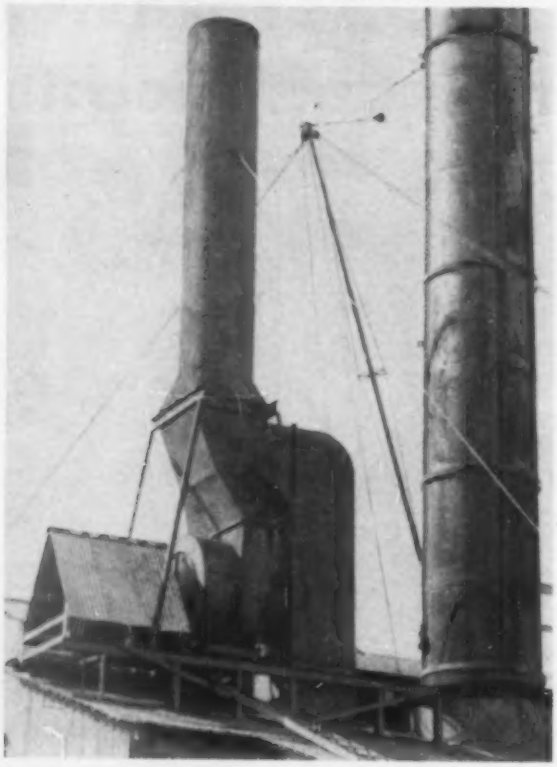
✓ 4 FT. HYDRAULIC FORWARD REACH

Mud, snow and soft ground are no problem with Cary-Lift on the job. Cary-Lift is the only log handling machine that is *completely mobile* all year 'round, on all kinds of terrain, under all temperatures. There are never any slow-downs because of soft ground or bad weather. Powerful 4 wheel drive, 2 or 4 wheel steer, high flotation tires and a patented 4 ft. hydraulic forward reach enable Cary-Lift to continue operating while other log handling machines must wait for favorable ground conditions. It will pay you to ask experienced Pettibone engineers to make a survey of your operation and show how Cary-Lift will increase your profits. Write today!

PETTIBONE CARY-LIFT

Write for Bulletin P 185
PETTIBONE MULLIKEN CORP.
4700 West Division Street
Chicago 51, Ill. • SPaulding 2-9300

Cinder Remover Solves Problem



With the first of two cinder separators of its own design proving almost 100 per cent efficient, Cape Arago Lumber company, Empire, Oregon, is now constructing a second unit. Northwest mill operators have been observing with interest this new technique in adapting an induced draft fan to the problem of removing from mill gases the objectionable cinders that soil clothes and clog gutters.

Under the peaked roof on the left of the picture is a 15-horse-power motor that drives a 49-inch 16-blade fan in a housing six feet in diameter by 30 inches across. The 8-inch blades are forwardly curved and squared off on the ends. Revolving at 750 RPM in either direction, the gas, cinders and dust are drawn through the intake from the rectangular stack that connects directly with one of Cape Arago's two 300 horsepower boilers. The centrifugal motion throws the heavy matter against the smooth wall of the housing and carries it in a thin layer around the casing and into a half-inch slot across the bottom. From this narrow duct it blows into a pipe (an ordinary 6-inch stove pipe at present) that leads back to the furnace.

The cleaned gases, directed by baffles, flow out through a series of adapters and are ejected through a round stack 3½ feet in diameter by 20 feet high.

When the mill and boilers are down or idling and the fan is cut off a damper is opened at the juncture of the rectangular stack with the adapters. This allows the gases to by-pass the fans.

A check at the end of several weeks' operation showed that the original unit was operating very satisfactorily. A second cinder remover, now being built above the other boiler, will incorporate only a few minor changes, according to Bill Blake, powerhouse foreman who designed the cinder seperator, as he calls it, and supervised its erection.

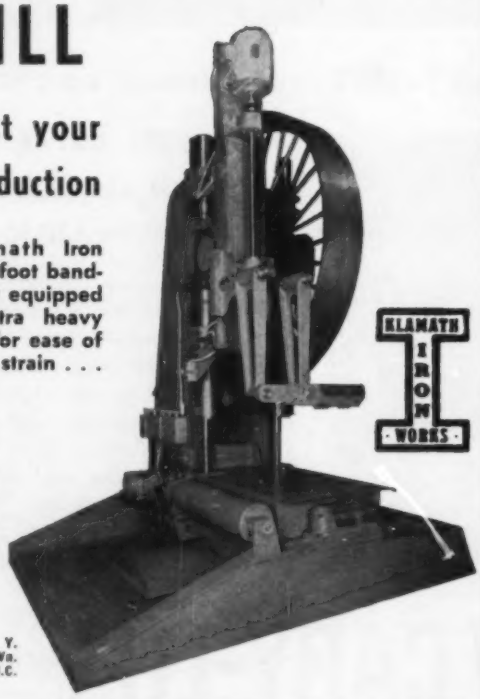
When the second unit is completed the central, 6-foot and 120-foot stack (to the right in picture), will be removed, says Buz Miller, general manager. Originally the tall stack was connected with both boilers.

The Klamath Iron Works

BANDMILL

Designed to Boost your better lumber production

Shown here is the Klamath Iron Works Pacific Coast type, 8-foot bandmill. This unit is completely equipped with electric lifts . . . extra heavy construction . . . designed for ease of installation . . . knife-edge strain . . . roller bearing arbors.



Original Designers and builders

KLAMATH IRON WORKS

P.O. Box 129, Klamath Falls, Ore.

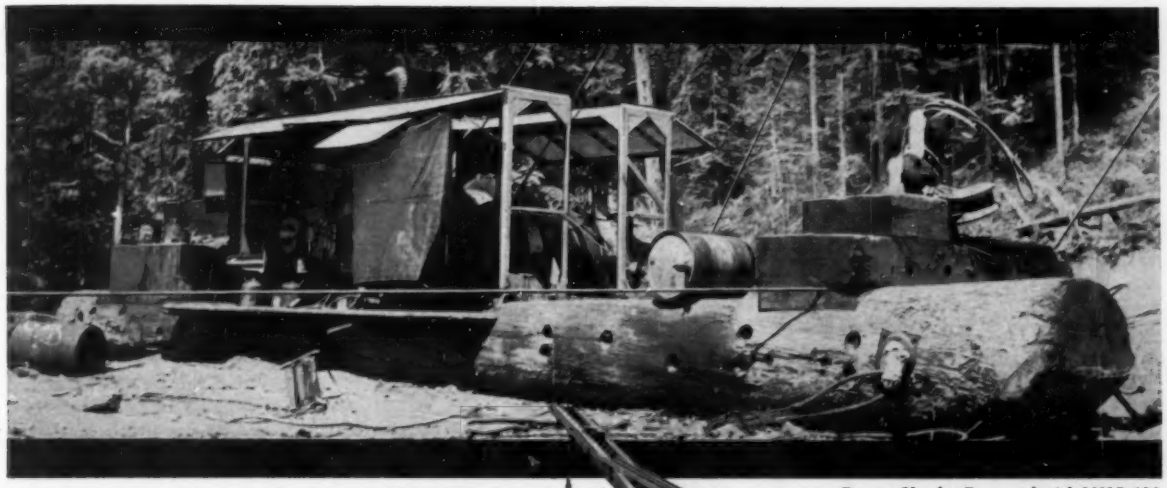
Representatives:
United States Machinery Co., New York, N. Y.
Washington Mach. & Supply Co., Spokane, Wn.
Electric Power Equipment Ltd., Vancouver, B.C.
PHONE: 7721

Research Program Set Up

A special committee set up to study forest fires in South Carolina last month broadened its scope to take a sweeping look at needs for forestry research in the state.

Among those who appeared before the nine-man committee were representatives from West Virginia Pulp and Paper Co., Bowaters, Champion Paper & Fibre and several leading lumber companies. One of the suggestions was that the committee set up a forestry research center at Clemson College, a proposal approved by Dr. O. B. Garrison, dir. of the college experimental station, and Dr. Solomon Ehotsky, head of Clemson's new school of forestry. More than a dozen foresters and others interested in the state's timberlands, testified that South Carolina is sadly lacking in forestry research. Most of it is now being done by private companies.

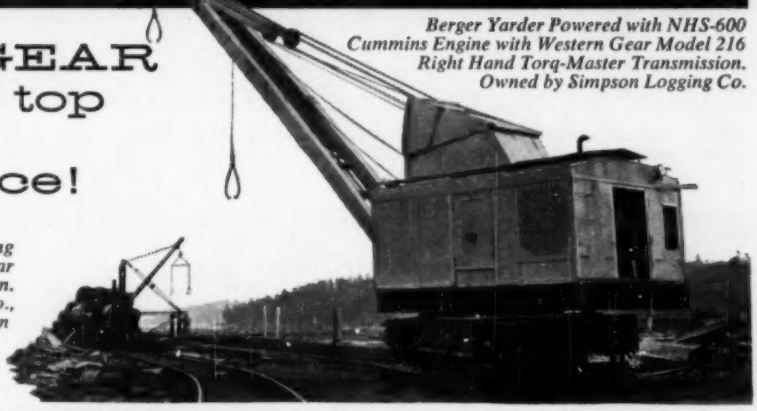
Among the recommendations made by professional foresters to the committee were: Develop effective practices for the management, reforestation and handling of bottom-land hardwoods; determine the best methods for converting scrub-oak tracts into profitable stands; study hardwood genetics; study insect and disease control; inventory the state's timber resources at more frequent intervals; develop improved management practices for short leaf and loblolly pine; determine the best species of trees to grow various sites and in various soils.



Berger Yarder Powered with NHS-600 Cummins Engine with Western Gear Model 216 Right Hand Torq-Master Transmission. Owned by Simpson Logging Co.

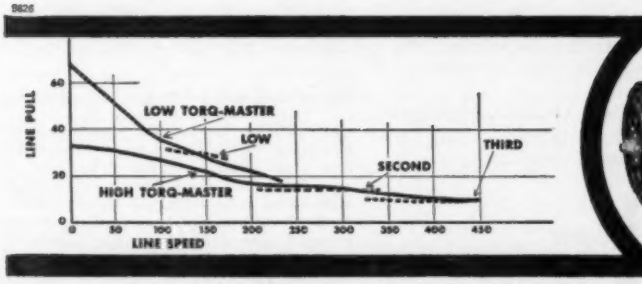
WESTERN GEAR formula for top yarder performance!

Repowered Orton crane utilizing HRBIS Cummins Engine with Western Gear Model 217 Left Hand Torq-Master Transmission. Owned by Simpson Logging Co., Shelton, Washington

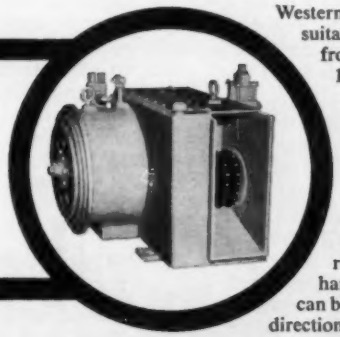


Proven by thousands of hours of service, Western Gear Torq-Master transmission and hydraulic torque converter provides smooth, shock-free application of power from high speed, light loads to maximum pull. Designed for easy installation on Skagit, Berger and other well-known yarders, numerous installations have proven the effectiveness of Western Gear's combination of torque converter and transmission in a single housing.

And Western Gear custom engineering – from drawing board to final installation – means peak performance for the life of the equipment with a minimum of costly down-time. Specify Western Gear equipment for your industrial power transmission requirements. We'll gladly help you with recommendations on your installation. Address General Offices, Western Gear, P.O. Box 182, Lynwood, California.



Graph shows Western Gear Torq-Master-converter smooth, shock-free power application characteristics and ample reserve power at low speeds to handle heaviest loads without shock or engine "lugging."



Western Gear Torq-Master "200"... suitable for engines from approximately 150 HP to 300 HP at 2100 RPM . . . combines automatic speed-torque characteristics and two-speed air shift transmission in one compact unit. It is available with either right hand or left hand arrangement and can be furnished for either direction of sprocket rotation.

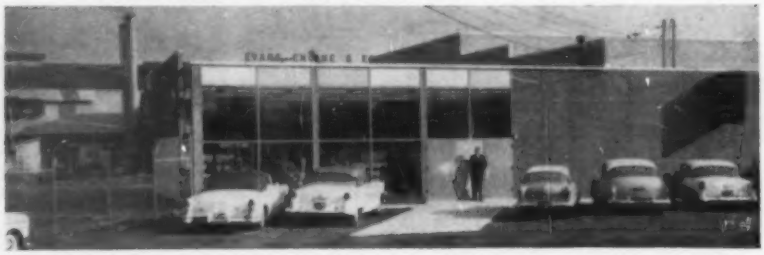
"The difference is reliability" • Since 1888

WESTERN GEAR Corporation
ENGINEERS AND MANUFACTURERS

PLANTS AT LYNWOOD, PASADENA, BELMONT, SAN FRANCISCO (CALIF.) SEATTLE AND HOUSTON—REPRESENTATIVES IN PRINCIPAL CITIES

THE Lumberman MACHINERY & EQUIPMENT

BEST WISHES are extended to the Evans staff (top left cut) by W. E. CROSBY, editor of THE LUMBERMAN. Others (L-r) are JOHN ANDREWS, JERRY McQUINN and RUSS CREIGHTON. Top right picture shows RAY JOHNSON.



MODERN DESIGN is featured in the new Evans Engine and Equipment Co. store, shop and headquarters building in the Ballard district of Seattle. Overhaul and service facilities make use of the latest equipment.

GM, Euclid Lima Dealer in New Home

• Into a modern, spacious new headquarters building at 4300 11th Ave. N. W. has moved Evans Engine & Equipment Co., the Seattle area dealer for Euclid tractors and earthmoving equipment, GM diesels and Lima shovels and cranes.

On hand in late October for the formal opening of the structure were staff members of THE LUMBERMAN. The building itself provides complete sales and service and parts facilities for the above-mentioned logging equipment, including the installation of diesels in heavy machines. Evans now has on hand the new GM 6-110 diesel with the Roots blower side-mounted. This placement of the blower is now standard; it replaces the old centrifugal rear-mounted blower.

Of interest to loggers in northern and western Washington are the new Evans salesmen who will be contacting the industry. Ray Johnson is handling the Olympic Peninsula, plus Kitsap county. John Andrews has the territory north from King county including Island county. Russ Creighton, an ex-contractor, is working out of Ellensburg in Kittitas, Chelan and Yakima counties.

Evans also represents the Michigan line of heavy earthmoving and industrial equipment for Alaska.

New Line for Howard-Cooper

• A major line of heavy industrial machinery, Link-Belt Speeder, is now being distributed in western Oregon by Howard-Cooper Corp. through the firm's Portland headquarters and branches in Albany, Eugene, Roseburg, Coquille and Central Point.

Link-Belt Speeder manufactures crawler and rubber-tired shovel cranes.

P. L. Crooks & Co. Sold In Million-Dollar Deal

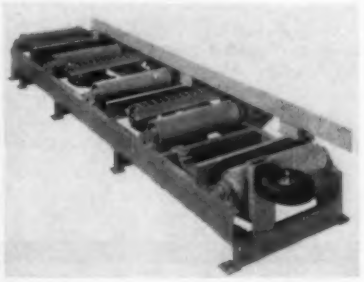
• In one of the biggest machinery house transactions in recent years, P. L. Crooks & Co., Inc., Portland, Ore., has been purchased by Interstate Tractor & Equipment Co., also of Portland. A sales figure of over $1 million was reported.

Principals involved in the deal are Collis Johnson, president of Interstate, and Paul L. Crooks, Jr., of Crooks. Both figures are prominent in the machinery picture in western Oregon.

One of the major lines of machinery involved is that of Euclid Division of General Motors. Interstate has been assigned this line by GM and will continue to represent it.

Mr. Johnson stated that Interstate will operate the Crooks five-acre yard and shop on N. W. Front St. near St. Helens Road as well as the office and plant-yard in Eugene.

The Crooks' service organization is being integrated into the new ownership. However, Crooks will retain the headquarters property at 2141 N. W. Pettygrove St. for sale at a later date.



Feeds Cants to Gangsaw

CANT ROLLER CASE — Mill Engineering and Supply Co. has developed this new electrically driven air-operated infeed roller case for cants. This piece of auxiliary gangsaw equipment comes fully assembled. Three of the 8" feed rolls are powered with a 5 hp electric motor. Air-operated pick-up skids transfer the cant or flitch from the deck and align it firmly with the guide bar. As the skids drop, the cant is propelled forward to the gang. Near the gang, an air-operated pressure roll equipped with a rubber tire, assures continued position whether cant edge is smooth or rough. Driving rolls are free-wheeling, allowing the roll speed to adjust to the feed speed of the gang. As the cant is released from the roller case, the rolls return to normal speed. This allows the following cant to "catch-up" to the one already in the gang, and little or no time is lost in between.

TL-6 Loads, Yards

• The Trakloader pictured here on the Crowell Logging Co. operation near Sultan in western Washington is one of a new TL-6, the latest model in the Washington Iron Works line of mobile loading and yarding machines.

Like all Trakloader models, the center-mounted A-frame is equipped with a swivel guy ring and fairleader. The swivel guy ring allows the machine to be guyed for yarding or when loading large logs. The fairleader is used for the haulback line when yarding or as single, fast-setting guyline for loading.

Rubber-tired mountings are available. Higher A-frames, hinge-type and special booms are optional. Other optional equipment includes main drum unspooler, electric slack puller in boom, straw drum, choice of engines and extra heavy counterweights. For moving, the top part of the cab can be removed and the A-frame tilted forward to reduce overall height. The one piece counterweight, boom and A-frame are removable to meet weight requirements for highway travel.

Capacity of main drum is from 460 to 600 feet of line depending on line size, permitting yarding operations in excess of 400 feet. Capacity of haulback drum is 1800 feet of ½-inch line. Total weight of standard crawler-mounted TL-6 model is 71,060 lbs., including counterweight.

The capacity of the TL-6 without guys is 73,000 lbs. at 10-foot radius, based on 85% tipping. With A-frame guyed for yarding and loading the TL-6 will lift up to its rated single line pull at any radius of the boom. Maximum rated single line pull of main drum is 61,000 lbs.

New Clark Power Train

• The new Clark "TransVerter," a power train package consisting of a torque converter, hydraulic disconnect clutch and standard transmission, is now standard equipment on the Series 100 Clark-Ross straddle carriers and available optionally on the Series 93 carriers.

Designed specifically for off-highway and stop-go operations, the "TransVerter" was introduced in July by Clark's Transmission Division. Its operational advantages include elimination of engine stalling and lugging, sharp reduction in gear shifting to the point where most work can be performed in the same gear, and fine inching control by simply working the throttle.

SPEAR & JACKSON

Band Saws

Spear & Jackson Bandsaws can be counted on to perform with the best. Into them go the finest steel obtainable and a quality of workmanship in welding, swaging, grinding, and tensioning, gained from years of sawmaking experience.

Spear & Jackson Bandsaws are custom-made to your exact specifications at our factory in Eugene, Oregon. Large and small operators alike are satisfied users.

SPEAR & JACKSON

EUGENE, OREGON

Band, Gang, Circular Saws, Teeth and Holders

"The Saw Without a Flaw"

New Products & Services

NEW CAMBIO 26-in. debarker is shown here in the operating position. Note Cambio control cabinet, an optional accessory for control of barker, conveyors and log-moving equipment.

Soderham Opens New Branch in Portland

• Opening of a west coast office in Portland, Ore., by Soderhamn Machine Manufacturing Co. is announced by Gus Jacobseon, president. Paul Kornberg, graduate engineer and former purchasing agent at Soderhamn's Talladega, Ala., plant, is the manager. Spare parts service will be provided at Portland and at Vancouver, B. C., in addition to Talladega.

PAUL KORNBERG

Soderhamn is a Swedish sawmill machinery company. It developed the Andersson mechanical debarker. The firm also manufactures the new Cambio mechanical debarker. Other units of the company's line are chippers, screens, conveyors, metal detectors, gangsaws and general sawmill equipment.

The Talladega plant has been doubled in size. Now any machine sold by the company may be repaired and/or maintained or duplicated there.

Halton Adds Skagit Line

• Halton Tractor Co., has added the Skagit line and will act as sales distributors and service and parts representatives in the 11 northwestern counties of Oregon and 5 southwestern ("river") counties of Washington.

Complete service and parts facilities will be maintained at all store locations. Main office for Halton Tractor Co. is in Portland; branches are in Salem, Astoria and Longview, Wn. Halton was recently appointed dealer for Caterpillar in this area.

★ ★ ★

New Signode Dispenser

OPERATION IS SIMPLE—Among the principal advantages of this new Signode power strap dispenser are its simplicity and safety in operation. A push-button enables the operator to control the length of strap fed through the cutter jaws. When the right length of strap has passed through, the button is released and the strap halted. Pulling cutter handle, operator quickly severs strap. Machine feeds strap at the rate of 6-10 fps. Cutting requires 2-4 seconds. This machine is said to reduce job fatigue and to effect big savings.

New Crane Is Convertible

• A 35-ton Moto-Crane, model MC530W, has been added to the Lorain line of power shovels and cranes.

The rubber-tire carrier for this new model (above) is of entirely new design and is longer (28'6"), heavier and stronger. One hundred twenty-two inches wide, it is powered by either gas or diesel engines through either of the 10 or 15 speed transmission sets available. Highway speeds are up to 37 mph. Can be supplied with 6x6, 6x4, or 8x4 axle arrangements. The 8x4 carrier permits greater lifting capacities without the use of outriggers and the double front axle gives better load distribution for improved flotation for off the road travel. Tires are 14:00 x 20. Hydraulic, power-assist steering is standard. Power brakes are available.

This crane is fully convertible to crane, clam, dragline or hoe. Forty-eight-inch bucket is standard.

Pulp Logs Shipped

• For the first time in history timber from the Blue Mountains of eastern Oregon is being shipped to pulp and paper mills of the Northwest.

This year approximately 50,000 board feet daily are being shipped to the mills on Puget Sound by the Blue Mountain Reload corporation, now operating near Athena.

WRITE FOR LIST OF USERS

REFUSE BURNERS

THREE TO SIX DAY ERECTION

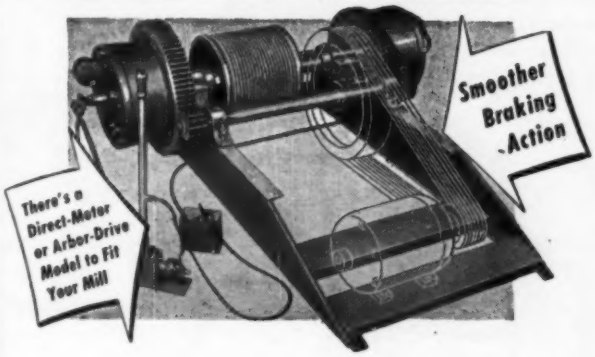
HEAD PULLEYS — BEARINGS — CHAIN
FLIGHTS — FULL CONVEYOR DRIVE
FORK LIFT DUMP BOXES

Also manufactured in: Denver, Colorado; Salt Lake City, Utah; Billings, Montana; Albuquerque, New Mexico. FOR INFORMATION WITHIN THESE AREAS CONTACT—Robert S. Bader, 142 Broadway, Denver 3, Col. Phone: SHerman 4-2735

C & D WELDING SERVICE, Inc.

P.O. BOX 1787 Phone - 2478 REDDING, CALIF.

SALEM FEED WORKS



- Heavy-duty brake, units, same as on log or freight trailers.
- Speed tailored to fit your specific mill requirements.
- Complete unit installations assure fast, continuous operation.
- Operator is able to obtain fast, flexible carriage action with minimum of effort.

WRITE OR PHONE FOR FURTHER INFORMATION

Write for circulars about:

Salem band mills • Salem scrag mills
Salem air cylinders • Salem edgers
Salem carriages, etc.

Proven profitable for many years.

NOW IS THE TIME TO GET STARTED FOR A MORE EFFICIENT MILL FOR 1957.

Contact us or write for the name of the Dealer nearest you.

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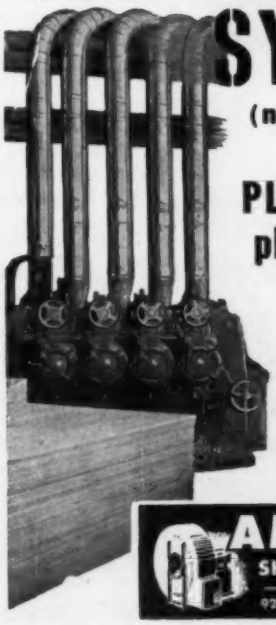
(new or redesigned)
FOR
PLYWOOD PLANTS
planing mills, etc.



Any Industrial Sheet Metal Work to Your Requirements

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Portland, Oregon

AMERICAN SHEET METAL WORKS, Inc.
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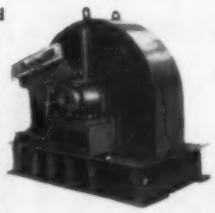
QUALITY SPECIFICATION SIZE PULPWOOD CHIPS FROM • SLABS • EDGINGS • ROUND WOOD OR VENEER CORES

MURCO CHIPPERS

MURCO SMALL LOG CHIPPER

An economical 6-knife chipper for use where production demands are relatively small — made in disc diameters 36", 42", 48", 54", and 60".

MURCO High Speed MULTI-KNIFE WASTEWOOD CHIPPER



Ruggedly built and designed for use where production is required — made in 56", 64", and 72" diameter discs. Can be used as a portable unit mounted on skids or trailer for Diesel engine drive.

MURCO MECHANICAL FEED WASTEWOOD CHIPPER

The 75" diameter 4-knife model has the spout feed mechanism synchronized to the speed of the disc to produce uniform size chips. Capacity when operated at 500 RPM and set to cut 5/8" to 3/4" chips is approximately 10 cords per hour . . . can be driven by electric motor or Diesel engine. Available with blower housing for pneumatic chip conveying.

WRITE TODAY FOR NEW MURCO CHIPPER BOOKLET — The most complete and detailed story on wastewood chippers . . . yours upon request.

MURCO

D. J. MURRAY MANUFACTURING CO.

Manufacturers Since 1883

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News of Suppliers

- Promotions
- Appointments
- Plant Expansions
- Mergers & Acquisitions

Promoted by Two Firms

ROBERT H. FEELY (l) has been assigned to the new post of division fleet representative for General Petroleum Co. Mr. Feely formerly was district fleet and automotive representative. He has been in the oil business since 1928 with the old Gilmore Oil company and General Petroleum. He also has seven years experience in the logging and lumbering business. He will make Portland his headquarters.

ROBERT J. SINCLAIR (r) has been named general sales manager of the Tractor Equipment Division, Pacific Car and Foundry Co., Renton, Wash. Mr. Sinclair will be responsible for sales of Carco winches and allied tractor equipment lines. After joining Pacific Car in 1944, Mr. Sinclair served as northeast territory representative, tractor manufacturer representative and divisional sales manager. He is an alumnus of Universities of Virginia and in World War II served with the U.S. Army Corps of Engineers. He will work out of Chicago.

★ ★ ★

• LEONARD E. PETERS has joined the Seattle staff of The Rucker Co. as field engineer, working out of Rucker's new and large headquarters at 1000 4th Ave. S. Rucker is western firm distributing hydraulic equipment and manufacturing fluid power systems.

ROBERT C. GRAY has been appointed manager of domestic sales for Dryalator dry kilns, manufactured by Orr & Sembower, Inc., Reading, Pa.

A new field sales manager for Macwhyte Co. has been announced. He is RUSSELL J. WHYTE, for the past 12 years a district factory representative in California. He will work out of company headquarters at Kenosha, Wis. Mr. Whyte's duties include distributor and customer relations.

A new gas processing plant, the second of three major units being built in TIDEWATER Oil Co.'s current western expansion program, has been completed and put into operation at its refinery near San Francisco. It has a capacity of 88 million cubic feet per day.

GRATON AND KNIGHT

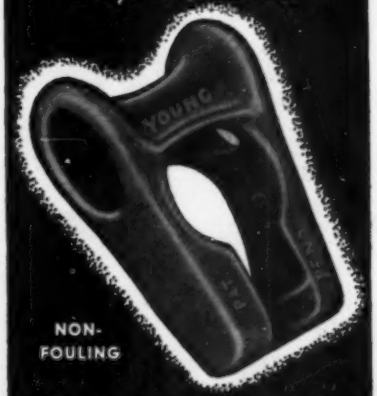
G & K INDUSTRIAL LEATHERS

GRATON & KNIGHT Company

WORCESTER, MASSACHUSETTS

40% LIGHTER

25% SHORTER



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MOST POPULAR HOOKS MADE

Send for our COMPLETE RIGGING CATALOG

young IRON WORKS

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News of Suppliers

New Salesmen in Portland

DALE LILLEBO (L), a former mill supply business operator in Coos Bay, Ore., has been appointed to the sales staff of Weed Control Service, Inc., Portland, Ore. Mr. Lillebo will be calling on the lumber, pulp mills and forestry trade to discuss the use of Fitchburg portable wood chippers, the Ackley air saw for tree pruning, the Brushking brush saws for thinning and spraying system nozzles for use in pulp and paper mills.

STEVE MAHONY (R) is a newly appointed sales engineer for E. V. Prentice Co., Portland, Ore. Mr. Mahony brings to his new post an engineering background that includes experience in the lumber division of Pope & Talbot. He was the first student to receive a degree in Industrial Engineering at Oregon State. Mahony will work to develop new ideas for the plywood industries, and to contribute ideas on the maintenance of new equipment; he will be available to provide technical advice on the building of new veneer and p'ywood plants and on the conversion of existing plants to new equipment.

SAMUEL W. WHITE, Jr., has been elected a vice president of the Oliver Corp., Chicago, and will head the industrial sales division.

A former eastern regional sales manager for Dart Truck Co., L. B. PHILIPPI, has been selected by the Autocar Division of The White Motor Co. to be off-highway field representative.

VITTZ-JAMES RAMSDELL and FLOYD CHAPMAN, president and manager, resp., of Truck & Industrial Equipment Co., Portland, Ore., recently attended Waukesha Motor Co.'s first distributor meeting at Waukesha, Wis. The meeting commemorated Waukesha's 50th year in business. Messrs. Ramsdell and Chapman and PAUL RABBACH, asst. manager of the Portland firm, also attended the Bendix Westinghouse Automotive Air Brake Co.'s Pacific Division sales meeting in San Francisco.

Mater Machine Works, Corvallis, Ore., has appointed ADRIAN R. LANDERS as plant manager, replacing CHARLES T. PAINE, who has become chief mechanical engineer for Edward Hines Lumber Co. Mr. Landers is an M.E. graduate of Oregon State college and formerly operated his own sawmill and worked for other machinery manufacturers.

Stetson-Ross Machine Co. Promotes Three Veterans

THIS TRIO of experienced employees of Stetson-Ross Machine Co., Inc., has been promoted to important posts. CHANDLER JONES (L) has become assistant general manager. WARREN ZUERCHER (c) is the new chief engineer, and ROBERT D. HARROPP has been appointed sales manager. Prior to this appointment, Mr. Jones worked at various assignments, principally in sales advertising. Mr. Harrop has been successively, production manager, plant superintendent and sales representative. Mr. Zuercher was a Stetson-Ross design engineer for a number of years under Fred A. Nicholson, who was chief engineer for over 20 years prior to his recent retirement.

J. J. LAPP has been chosen for the post of Los Angeles representative for Chrysler Marine & Industrial Engine Division of Chrysler Corp. Formerly with Federal Motor Trucks as engineer and field service representative, Mr. Lapp will work under newly selected regional manager M. J. YOST.

BLO-R-DRY

THE ECONOMICAL LUMBER DRYER

Manufactured and installed by Iron Fireman Manufacturing Company. Capacity from 140,000' BM to half million per week. Can be shut down and re-started with no damage to the lumber. Fully automatic. Movable. Can be obtained on lease basis. Installed complete with building in 30 days. Total costs for purchasing or leasing with operation costs will not exceed $5.00 per M.

BLO-R-DRY, Inc.

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Now! Portalloy rubber covered camel back chain for use in selective transfer handling

Special Non-Marking White Rubber Is Used To Eliminate Bruising • The Rubber Is An Integral Part of Chain

ask for details about this chain,
and all Portalloy standard chains . . .
also rubbber covered rolltop

NOT AN ATTACHMENT

- WILL STAND TOUGH WEAR
- ELIMINATES DOWN GRADING
- COMES IN STANDARD H-78 AND H-138 CHAIN ON THE FAMOUS PORTALLOY STEEL QUALITY CHAIN

PORTLAND CHAIN MANUFACTURING CO.

IN THE HEART OF THE LOGGING INDUSTRY

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News of Suppliers

NOW AT HOME . . . IN NORTHWEST PORTLAND. Northwest Chain & Sprockets, Inc., has moved into this spacious and attractive sales and service offices at N. W. 2d & Couch, Portland, Ore. Frank Berg is manager. Some of the nationally known firms represented include Jeffrey Mfg. Co., Whitney Mfg. Co., American Pulley Co., Fabco flexible couplings, Eberhardt-Denver speed reducers. Northwest also has a branch in Seattle; the firm is 11 years old.

Interstate Takes on Lorain

• Interstate Tractor & Equipment Co. of Portland and Eugene, Ore., is the new Thew Lorain distributor for the entire state of Oregon and the five Columbia river counties of southwest Washington. Complete sales and service coverage will be offered from the two stores, 2855 N. W. Front Ave., Portland, and at 1041 Highway 99 N. in Eugene.

Several experienced shovel and crane men are being added. Interstate's Portland management personnel continue with Collis Johnson as president and store manager; J. D. Killgreen, sales manager; Al Haverland, service manager; John Morris, parts manager; and A. K. Arnold, office and credit manager.

In charge at Eugene are L. K. Wosler, store manager; Norman O. Harrang, asst. store manager; Floyd Fleming, service manager; and Ralph Hummel, acting parts manager.

★ ★ ★

Murphy Opens Body Firm

Tom Murphy has bought out the Truck Bodies Division of John McMahan Co., 6708 N. E. Glisan, Portland, Ore. Murphy for 10 years owned Pacific Bodies, Portland. He has considerable experience building and converting all types of truck bodies, such as crummies for the logging industry and school buses and other bodies to meet industrial demands. Murphy will provide industries with a complete service in truck body building and conversion. The firm will continue under the McMahan name.

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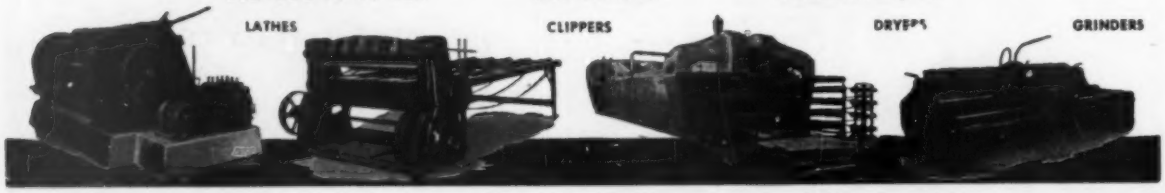

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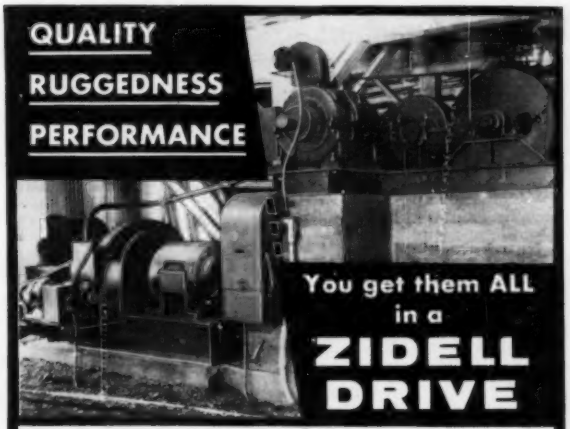

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ALSEA LBR. CO., Alsea, Ore.
HOLLENBECK LBR. CO., Trout Lake, Wn.

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WOODLAND, WASHINGTON

News of Suppliers

IT'S A NEW HOME for L. S. Baier & Associates, builders of boom and pond boats, for loggers and lumbermen, as well as of work boats for industry. They have combined their boat plant and general offices in a new modern plant at 4538 S. W. Macadam st., Portland, Ore. The new plant has 200 feet of frontage on Harbor line, and a 100-ton marine capacity railway, is provided. The plant was formerly at Milwaukie, Ore.

Hales Take on A-C Line

• Gordon and Wayne Hale, prominent loggers in the Eugene, Ore., area, have been appointed distributors for Allis-Chalmers tractors. The brothers have themselves logged with five Allis-Chalmers tractors.

Their place of business is at 2600 Main St., Springfield, Ore. Also associated with the Hales are Robert Renney and Rodney Brokenshire, both experienced in logging and equipment. Complete stocks of parts will be carried at the Springfield headquarters.

FOR SALE

Sawmill and Planing Mill Machinery in A-1 Condition

(Located at Ponchatoula, La.)

SAWMILL

1—8' R.H. Band Mill, plain bearings, belt driven, including pulleys and shafting $6,000.00

1—9' L.H. Band Mill, plain bearings, belt driven, including pulleys and shafting $7,000.00

1—4'6" x 20' Sawmill Carriage, 6 tracks, 3—42" head blocks, 2 Hammer Dogs, Prescott Steam Set Works, air dog equipment for 3 blocks, with 60' flat and V track $10,500.00

1—Filer & Stowell 6' x 20' Practically New, all steel frame Sawmill Carriage; 3—54" head blocks, air operated, one hammer dog, Electric Set Works, 6-flat and 6-V roller bearing wheels; 60' each of flat and V rail $18,000.00

1—Steam Shot-gun Carriage Feed, 14" x 36' cylinder complete with all piping and operating devices including control valves $3,000.00

1— Ditto, 12x x 36' cylinder $2,500.00

1—Filer & Stowell 6' Vertical Band Resaw, belt drive, roller bearings, steam operated chain driven rolls, complete with shafting, pulleys, feeding-in chain; feeding-out rolls $10,000.00

1—60" R.H. Heavy duty Edger, plain bearings, complete with countershaft, pulleys and saws $3,000.00

1—60" L.H. Ditto $3,000.00

1—24' Trimmer, air operated, complete with all necessary shafting and pulleys $2,200.00

1—Diamond No. 60 Hog, plain bearings, belt driven, complete with shafting, pulleys, and belting $4,000.00

1—Special Steel Frame Lumber Stacking Machine, complete with all necessary chains, shafting, pulleys, friction drives; with 40 H.P. Motor $2,800.00

PLANING MILL

1—Yates 6" x 15" Planer & Matcher, plain bearings, complete with automatic feed table; 75 H.P. Motor and Starter $5,000.00

1—Yates 30" x 6" Double Surfacer, plain bearings, complete with 60 H.P. Motor, Starter, Switch, and automatic feed table $4,500.00

1—Yates 4" x 4" Outside Moulder, Plain bearings $600.00

1—Yates 4" x 4" Outside Moulder, Plain bearings, complete with countershaft, pulleys, 20 H.P. Motor, starter and switch $1,500.00

1—Yates 6" x 12", 5-Head Outside Moulder complete with 40 H.P. Motor, starter and switch $2,500.00

2—Yates 44" x 4" Vertical Band Ripsaws, plain bearings, complete with 20 H.P. Motors, starters, and switches ..... $1,950.00 Ea.

STEAM AND POWER PLANT

All Items in A-1 Condition

1—Filer & Stowell 28" x 48" Horizontal Corliss Steam Engine, side crank, 18' x 3'6", 20-groove fly wheel for 1¼" rope drive.

2—G. E. Steam Turbine Generator Sets, 500 kw.

1—1 Cylinder Tandem Steam Driven Air Compressor, 21" x 24" air cylinder, 20" x 24" steam cylinder.

1—Worthington 13" x 14" x 13", 1-Cylinder horizontal Air Compressor.

4—72" x 19'6" Horizontal Return Tubular Boilers, 4" tubes, grateless furnaces, with all piping and valves.

MACHINE SHOP

All Items in A-1 Condition

1—McCabe 30" x 40" x 18', 2-Spindle Lathe $3,000.00

1—Erie Steam Hammer, 8" x 30" cyl. $1,200.00

1—Cincinnati 24" x 24" Metal Planer, belt driven, with all necessary pulleys and shafting $2,500.00

1—4' Radial Drill, power elevating $2,500.00

1—Horizontal hydraulic Wheel Press, 6" dia. ram, 39" between rails $800.00

1—Lincoln 300 amp. Shield-Arc Welder, belt driven by Buda 6-cylinder gasoline engine.

LOGGING EQUIPMENT

All Items in A-1 Condition

2—Single Line Rehaul 5-Drum Clyde Skidders, 10" x 12" twin engines, with upright Boilers, 150 lbs. pressure.

2—2-Drum Rehaul Skidders, 10" x 10" twin engines, with upright Boilers, 150 lbs. pressure.

In addition to all the above Machinery and Equipment listed, we have numerous other items of Sawmill, Planing Mill, Machine Shop, Power Plant, and other miscellaneous items for sale.

Louisiana Cypress Lumber Co., Inc.

Ponchatoula, La.

F. J. Guiteau — Ponchatoula, La. ..... Telephone, Day: 7687; Night, 7766

K. F. Peterson — Chicago, Illinois ..... Telephone, STate 2-2464

A. F. Aitkens — New Orleans, La. ..... Telephone, UN 6-2374

Named to New Positions

JOHN HELDING (L), formerly Montana field representative for McCulloch Equipment Co., has been named Northwest district manager for McCulloch Motors Corp. He will serve as liaison representative between the home office and the distributors in Oregon, Washington, Montana and northern Idaho and part of northern California. Mr. Helding is an air force veteran and a graduate of Montana State University. He has also studied at the University of Stockholm and was at one time assistant dean of students at MSU.

BOB OLINGER (r) has been advanced to a new sales position with Monarch Forge & Machine Works, Inc., of Portland, Ore. He is now district sales representative for Washington, Montana and Idaho. A major duty will be to consult with the lumber industry on planned expansion. Mr. Olinger formerly headed his own trucking and logging firm and has worked for Oregon-American Lumber Co., D&O Lbr. Co. and Roseburg Lbr. Co. He is an AF veteran in World War II and Korea.

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In New West Coast Posts

M. J. YOST (L) has been named regional manager at Los Angeles for the Chrysler Marine and Industrial Engine Division of Chrysler Corp. A native Detroiter, Mr. Yost transfers from the Seattle office where he has been sales representative. He has been with Chrysler for 29 years.

HERMAN S. MORRISS (R), a man who has had wide experience in the manufacture of machine knives, has been appointed manager of the recently established factory branch and office of The Wapakoneta Machine Co., at 5519 N. E. 30th Ave., Portland, Ore.

Mr. Morriss' background includes extensive technical training in the Wapakoneta plant. The Wapakoneta Machine Co. was founded in 1891. It manufactures straight, irregular and circular machine knives for the veneer industry, paper and pulp industry and woodworking and other industries.

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Truck Drivers Set Mark

• With the 12 logging truck drivers at Crown Zellerbach's Clackamas, Ore., Division, safety is no accident. Since March 8, 1952, this crew has driven 1,326,000 miles without a lost-time accident.

BUYERS GUIDE AND CLASSIFIED SECTION

List of companies supplying Machinery, Equipment, Supplies and Services used in the Forest Industries.

AIR CYLINDERS & VALVES
Caldwell Machinery Co., Portland, Ore.
Ledeen Mfg. Co., Los Angeles, Calif.

AIR MOTORS
Gardner-Denver Co., Quincy, Ill.
Salem Equipment & Supply Co., Salem, Ore.

APPRAISALS
General Appraisal Co., Seattle, Portland, San Francisco

ARCHES
Hyster Company, Portland, Ore.
Pacific Car & Foundry Co., Renton, Wash.

AXLES
Clark Equipment Co., Buchanan 8, Mich.
Eaton Manufacturing Co., Cleveland, Ohio
Roberts Motor Co., Portland
Timken-Detroit Axle Co., Detroit

BAND STRAIN DEVICES
M. W. Marten, Klamath Falls, Ore.

BAND MILL SERVICE
M. W. Marten, Klamath Falls, Ore.

BAND WHEEL GRINDING
Walker Saw & Mill Service, Cloverdale, Calif.
Wilder Saw Works, Fresno, Calif.

BARKERS, LOG
Sumner Iron Works, Everett, Wash.
Nicholson Manufacturing Co., Seattle
Soderhamn Machine Mfg. Co., Talladega, Alabama

BEARINGS
Chain Belt Co., Seattle, Portland, San Francisco
Dodge Manufacturing Co., Mishawaka, Ind., San Francisco, Portland, Seattle
Fafnir Bearing Co., New Britain, Conn.
Link-Belt Co., Seattle, Portland, San Francisco
J. W. Minder Chain & Gear Co., Portland, Los Angeles

BELTING AND PACKING
Gates Rubber Co., Denver
Goodyear Tire & Rubber Co., Akron
J. W. Minder Chain & Gear Co., Portland
Raybestos-Manhattan, Inc., Passaic, N. J.: Portland, Seattle
U. S. Rubber Co., Mechanical Goods Div., New York

BLOWPIPE SYSTEMS
American Sheet Metal Works, Portland
Anderson Blowpipe Mfg. Co., Seattle
Archer Blower & Pipe Co., Portland
Rees Blow Pipe Mfg. Co., San Francisco

BLUE PRINTING
Chas. Bruning Co., Inc., Portland

BOILERS AND ACCESSORIES
Gabriel Boiler & Fabrication Co., Portland
Seattle Boiler Works, Seattle

BOOMS—Loading
Eugene Truck & Machine Co., Eugene, Ore.
Young Iron Works, Seattle

BOOM BOATS
L. S. Baier & Associates, Portland
Gunderson Bros. Engineering, Portland
Nichols Boat Works Co., Hood River, Ore.

BURNERS—Refuse
Phelps Brothers, Inc., Eugene, Ore.

Archer Blower & Pipe Co.
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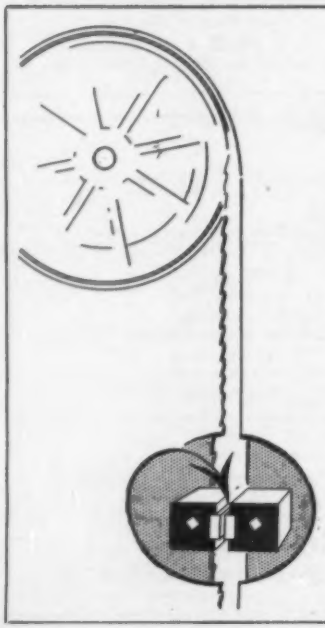

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GANG SAW HORN BLOCKS
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Filer & Stowell Co., Milwaukee, Wis.
Forest Products Machy. Corp., Salem, Ore.
I. W. Johnson Engineering Co., Tacoma
Master Machine Works, Corvallis, Ore.
Monarch Forge & Machine Wks., Portland, Ore.
Peters Co., Portland, Oregon
Sumner Iron Works, Everett, Wash.

CASTINGS—Iron, Steel and Brass
Electric Steel Foundry, Portland
Link-Belt Co., Seattle, Portland, San Francisco

CHAIN—Steel Roller and Malleable
Chain Belt Company and Baldwin-Duckworth Division, Seattle, Portland, San Francisco
Link-Belt Co., Seattle, Portland, San Francisco
J. W. Minder Chain & Gear Co., Los Angeles, Portland
Moline Malleable Iron Co., St. Charles, Ill.; Tacoma, Wash.; Seattle, Portland, Los Angeles
Jeffrey Mfg. Co., Columbus, Ohio
Northwest Chains and Sprockets, Inc., Seattle, Portland
Peoria Malleable Castings Co., Peoria, Ill.; Portland, Ore.
Portland Chain Mfg. Co., Portland

CHAIN SAWS—SEE POWER SAWS

CHIP HANDLING
Conveyair Co., No. Vancouver, Canada
Industrial Components, Inc., Portland, Ore.
Rader Pneumatics, Inc., Portland

CHIPPERS
Sumner Iron Works, Seattle
D. J. Murray Co., Wausau, Wisc.
Carthage Co., Carthage, N. Y.

CAR CONTROLS—Automatic
Industrial Components, Inc., Beaverton, Ore.

CRANES—Overhead
Ederer Engineering, Seattle
Harnischfeger Corp., Milwaukee, Wisc.
Berger Engineering Corp., Seattle

CRANES AND SHOVELS
Bucyrus-Erie Co., Seattle, Portland, So. Milwaukee
Baldwin-Lima-Hamilton Corp., Lima, Ohio, Seattle, Spokane, Portland, Vancouver, B. C.
Insley Mfg. Co., Indianapolis, Ind.
Link-Belt Speeder Corp., Chicago, Ill., Seattle, Portland, San Francisco
Northwest Engineering Co., Chicago, Seattle, Portland, San Francisco
Marion-Osgood-General, Marion, Ohio, Seattle, Portland, Oakland
Manitowoc Engineering Co., Manitowoc, Wisc.
Thew Shovel Co., Lorain, Ohio
Unit Crane & Shovel Corp., Milwaukee, Wisc.
Unit Shovel Co., Milwaukee, Portland, Seattle

CREOSOTED STAVE FLUMES & CULVERTS
Federal Pipe & Tank Co., Seattle

CUTTERHEADS
Henry Disston & Son, Philadelphia, Pa.
Jones & Orth, Seattle, Wash.

CYLINDERS—AIR & HYDRAULIC
Salem Equipment & Supply Co., Salem, Ore.

CYLINDER HEADS, REBUILT
Engineering Development Corp., Seattle
Northwest Motor Welding, Portland, Ore.
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Huber-Warco Company

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General Electric Co., Schenectady, N. Y.; Seattle, Portland, San Francisco, Los Angeles
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ELECTRIC FEEDWORKS
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Zidell Machinery & Supply Co., Portland, Ore.

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Allis-Chalmers (Buda), Portland, Seattle
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General Motors, Detroit, Seattle, Portland, Stockton, San Francisco, Los Angeles
Gunderson Bros. Engineering, Portland, Ore.
International Harvester Co., Chicago, Portland, Seattle, San Francisco
Precision Engineering Co. of Sacramento, Calif.
Waukesha Motor Co., Waukesha, Wisc., Seattle, Portland, Ore., San Francisco, Los Angeles

ENGINES—GAS
Ford Motor Company, Industrial Engine Division, Dearborn, Mich.
Chrysler Industrial

ENGINEERS—FORESTRY & MILL
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D. E. Collinson, Milwaukie, Ore.
Industrial Development Co., Tacoma
Production Management Engineering Association, Portland, Los Angeles, San Francisco
W. H. Rambo, Portland
K. B. Wood & Assoc., Portland

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Production Management Engineering Association, Portland, Los Angeles, San Francisco

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Anderson Blowpipe & Mfg. Co., Seattle
Archer Blower & Pipe Co., Portland, Seattle
Rees Blow Pipe Mfg. Co., San Francisco

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Atkins Saw Div., Seattle, Portland, San Francisco
Nicholson File Co., Providence, R. I.
Simonds Saw & Steel Co., Fitchburg, Mass.; Portland, Seattle, San Francisco

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FIRE PROTECTION EQUIPMENT
D. B. Smith & Co., Utica, N. Y.

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FRICTION BLOCKS
Champion Friction Co., Eugene, Ore.

GANG SAW GUIDES
Champion Friction Co., Eugene, Ore.

GANG SAWMILLS
Albany Machine & Supply Co., Albany, Ore.
Gunderson Bros. Corp., Portland, Ore.
Keystone Machine Works, Roseburg, Ore.
"Sunbo" Mill Engineering & Supply, Seattle
National Machinery Sales, Gold Hill, Ore.
Portland Machinery Co., Portland
Schnitzer & Wolf Machinery Co., Portland, Ore.
Star Machinery Co., Portland, Seattle
"Soderhamns" Sumner Iron Wks., Everett, Wash.
Western Steel & Supply Co., Dallas, Ore.

GEARS AND GEAR MOTORS
Link-Belt Co., Seattle, Portland, San Francisco
J. W. Minder Chain & Gear Co., Portland, Los Angeles
Pacific Gear Works, Los Angeles, San Francisco
Western Gear Works, Seattle

GLUES
Reichhold Chemicals, New York City

GRINDING WHEELS
Borg Warner Corp., Atkins Saw Div., Indianapolis
Norton Co., Worcester, Mass.; Seattle, Portland, San Francisco
Simonds Abrasive Co., Philadelphia, Pa.
Simonds Saw & Steel Co., Fitchburg, Mass.; Seattle, Portland, San Francisco

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Sumner Iron Works, Everett, Wash.

HOSE
Aero-Coupling Corp., Burbank, Calif., Portland, Ore.
B. F. Goodrich Co., Akron
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Goodyear Rubber & Asbestos Co., Portland, Ore.
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U. S. Rubber Co., New York City

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Columbia Div. of The Lodge & Shipley Co., Hamilton, Ohio
Washington Iron Works, Seattle
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BUYERS GUIDE and CLASSIFIED SECTION

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ONLY WHEELS MOVE ALL PARTS STOP
IN 2-WHEEL DRIVE NO PARTS MOVING!
FRONT DRIVE WITHOUT FREE-LOCK
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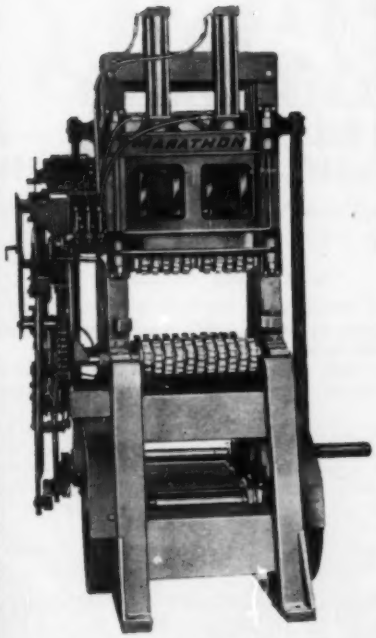

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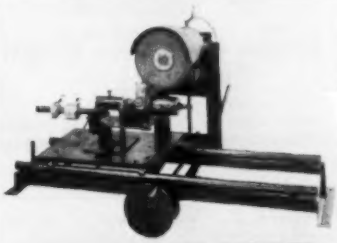

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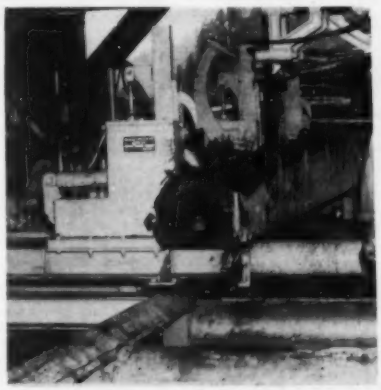

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Rebuilt Newman 500, 6" x 14" planer-matcher, 6-knife, ball bearing, top profiler.
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New Newman M-512 8" x 16" planer-matcher, 8-knife, ball and roller bearing.
New Newman M-510 6" x 14" planer-matcher, 6-knife, ball and roller bearing.
New Newman M-68 6" x 16" planer-matcher, 6-knife, ball bearing.
New Newman M-48 6" x 16" planer-matcher, 4-knife, ball bearing.
Used Berlin No. 94, 6" x 15" planer-matcher, 6-knife.
Used Newman 8-B 4" x 14" planer-matcher, ball bearing.

FILING ROOM EQUIPMENT

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New Newman G-132 straight knife grinder.
New Newman G-16 sidehead grinder.
New Newman G-71 sidehead grinder.
Used Hanchett 6" to 14" bandsaw grinder.
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Used Gunderson 54" vertical band resaw, left hand, anti-friction bearings.

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New Diamond No. 135 hog.
New Schurman 6" x 54" stub edger, L.H.
Used Sumner 8" x 54" stub edger, L.H.
New Miner 4" x 30" table edger, L.H.

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Used Whitney No. 32 6" x 30" single surfacer, ball bearing, direct motor drive. Special Price.
Used Newman No. 600 24" x 8" single surfacer, 5 HP, ball bearing. Special Price.
New Newman S-830 30" x 8" single surfacer, 7½ HP.
Used 15-H Indiana 2-spindle horizontal boring machine.
Used Hooper 2 color boxboard printer.

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BUYERS GUIDE and CLASSIFIED SECTION

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1—AMERICAN No. 77-A, Model 5, 8-knife Planer & Matcher, 6 x 15 with Double Profiles, $4950.00.

1—BERLIN No. 91, 6 x 20 with Double Profiles, 6-knife, $4750.00.

1—BERLIN No. 108 Moulder, 6 x 10, $950.00.

1—BERLIN No. 284, 54" R. H. Vertical Band Resaw, $2650.00.

1—BERLIN No. 340, 54" Horizontal Resaw, new wheel, $750.00.

1—New 30" opening portable sawmill, 16' 3-block carriage, B. B. 2 7/16 Mandrel, NEW 48" I. T. saw, $1450.00.

1—NEW COMBINATION KNIFE & HEAD GRINDER $325.00.

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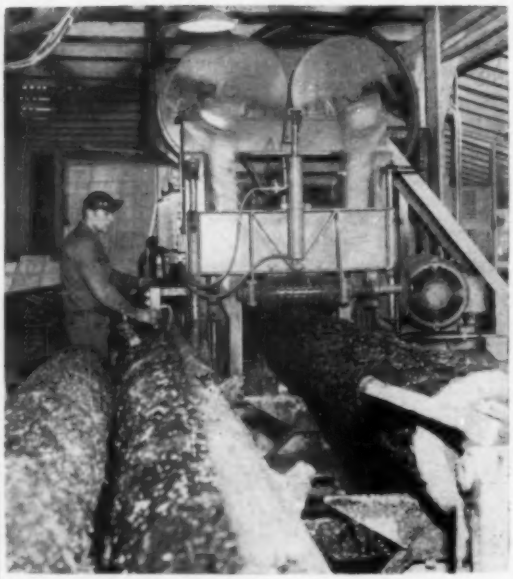

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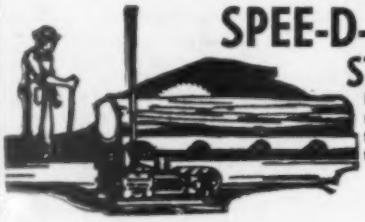

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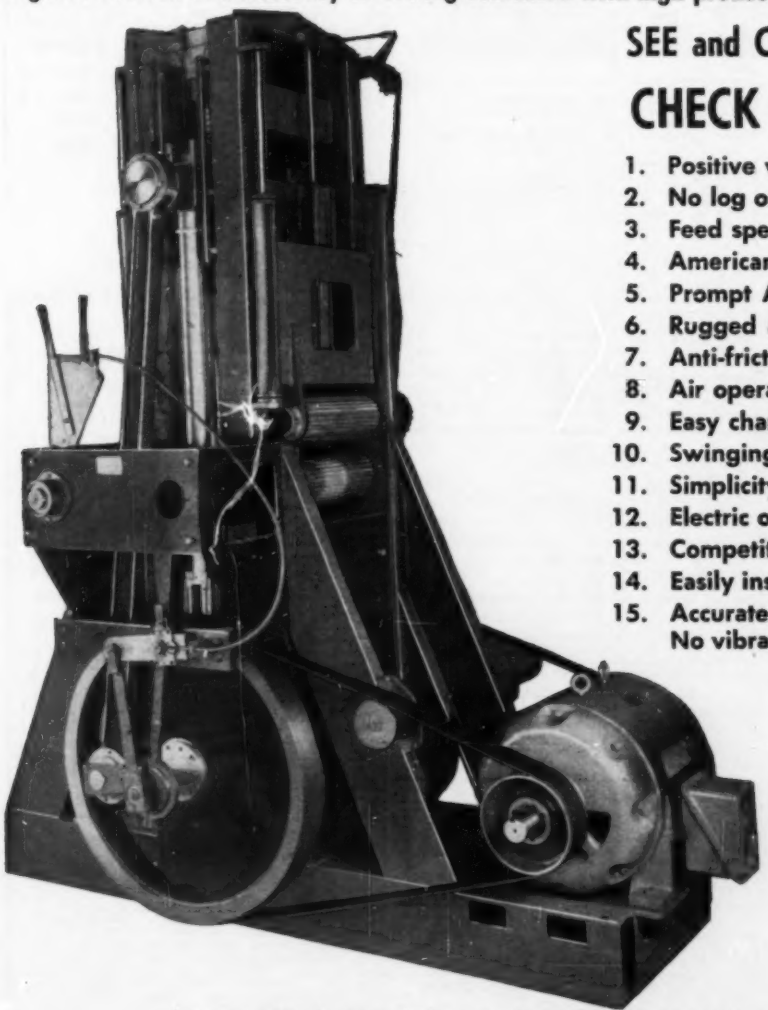

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1. Positive variable feed
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3. Feed speed up to 35 ft. per minute
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8. Air operated Cylinders
9. Easy changing of Saws
10. Swinging gates
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13. Competitively priced
14. Easily installed
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Logging Equipment, Includes TD18 Bulldozer with Winch & Wheels, TD14 Bulldozer, Skagit Loader, & 2 Logging trucks.

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30" Sunbo used gang mill, log or cant gang complete with log carriage, cutterhead, log guide, out-feed roll case, motor & many other items.

Used 200 H.P. G.E. AC-DC amplidyne controlled carriage drive & many other sizes.

Liquidating

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Used 6" x 60" L. H. Table Edger BB
Used 8" x 60" Schurman, 150 HP motor like new
Used 4" x 32" Wheland 3-saw BB table edger
Used 4" x 36" Newport BB table edger
Used 8" x 60" Allis LH roller brg. stub edger
Used 4" x 42" BB Newport stub edger
Used 6" x 42" Burton 4-gang stub edger
Used 12" x 84" Sumner edger
Used 6" x 30" Heaps stub edger
Used 4" x 32" American 3-saw stub edger
Used 4" x 30" Enterprise 3-saw table edger
Used 8" x 48" Evergreen bb dbbl. roll stub edger
Used 12" x 72" Sumner, split rolls—200 HP motor
Used 3-saw BB Vertical edger

HOGS AND CHIPPERS

New Diamond No. 25 hog
New Diamond No. 135 hog
New Diamond No. 165 hog
Used Diamond No. 65 hog
New Diamond No. 145 Chipmill
Used No. 35 Diamond Hog
Used No. 38 Diamond Hog
Used No. 35 Puget Sound Hog
Used No. 40 Diamond Hog
Used No. 45 Diamond Hog
Used No. 60 Diamond Hog
Used No. 45 Sumner BB Hog
New Diamond No. 145 hog
Used No. 35 Diamond Chipmill
Used 16" Sumner chipper — roller bearing

PLANERS—MOULDERS—SURFACERS

Used Woods 404 D. H. Electric—8-knife, double profile.
Used No. A66 Yates Electric 10-knife 6"x15" planer
Used No. 512 Newman and Knife, 8 x 16 Planer, dbbl. profile
Used Normanee 5 x 25 Surfacer
Used 490 Fay and Egan Surfacer
Used No. 100 Heaps 5" x 15" BB Pony Planer
Used American No. 77 8-knife BB planer
Stetson Ross No. 4 16x30 Timber Sizer
Used Berlin No. 95 6x30 6-knife matcher with ripper
Newman No. 99 6x15 6-knife planer-matcher
Used Frank 5x24 planer
New Marathon 4x13 BB planer-matcher
Used No. 118 Berlin 6" x 15" planer
Used planer feed table
4" x 4" Englesfield electric moulder-frequency changer
Used 4" XL Smithway elective moulder

COMPRESSORS

33 cu. ft. New Worthington air cooled
43 cu. ft. New Worthington air cooled
65 cu. ft. New Worthington air cooled
122 cu. ft. Used Worthington air cooled
194 cu. ft. New Worthington air cooled
198 cu. ft. Used Sullivan air cooled
311 cu. ft. Used Ingersoll Rand water cooled
324 cu. ft. Used Ingersoll Rand water cooled
New 465 CFM Worthington water cooled
500 cu. ft. Used Worthington water cooled
500 cu. ft. Used Ingersoll Rand water cooled
750 cu. ft Used Chicago pneumatic water cooled

HOISTS AND CRANES

Used single drum 6" x 15" spool
Used 5-ton Hoose Ersted single drum hoist—like new
Used American dbl. drum 24 x 24, 40 HP
New Budgit hoists in stocks
2-ton and 5-ton hand winches in stock

RESAWS AND RIP SAWS

Used 54" Mershon, anti-friction brg. tilt rolls
Used 54" Berlin resaw, screw set
Used 36" No. 2 Faye & Egan BB circular resaw
Used 42" J. A. Fay & Egan band rip saw
Used 42" Cordesman band resaw
Used 40" No. 4 band scroll resaw
Used 84" Mershon resaw, sawmill type, quick set
American No. 2 self-feed circular rip saw
Used No. 0 American rip saw
American Circular Resaw

HEAD RIGS AND CARRIAGES

Used 6' Union Iron Works band mill
54" Berlin Pony band mill, 7" blades
6' Yates band mill, all cast, LH
9' Union band mill, roller bearing, RH
Used 8' McDonough Bandmill
Used Monarch 3-block carriage, Andrus set
Portland Iron Works 60" opening headblocks
No. 4 Trout Set Works for screw block
Sumner Iron Works 3-block R&P 36" opening, tapers 54" opening screw type headblocks
3 Sumner 72" opening headblocks
Used Steel Husk with Vertical Edger

SHOP TOOLS

Used Oster pipe and bolt threader
Radial drill
American radial drill
8 x 16 Razine hydraulic hack saw
Kempsmith geared Maximuller
10 x 36 quick change lathe

MISCELLANEOUS

Used Stetson Ross 54" swing saw-BB
Used Hesse-Ersted 6 HP motorized saw arbor
American Columbia 48" oscillating 3-drum sander
Used Irvington 60" arm swing saw
Berlin 30" 3-drum sander
Used Morgan Box board matcher
Moreen Johnson 20' precision trim and printer
36" Crescent ball bearing band saw
Used Yates 36"—3-drum sander

FEED WORKS

Used Peters 16" x 4" friction feed works
Used Wheland 5" belt feed
Used 5 x 6 SpeeDee twin feed
Used 16 x 18 Allis steam twin feed, self-contained
Used 3" Hydraulic Shotgun

LOG AND CANT GANGS

Used 34" Mill Engineering log gang, air carriage
Marathon No. 200 gang saw, 13 x 20, for cants
Marathon No. 120 gang saw, for logs or cants
Linck gang saw for logs or cants, 22x22—In stock
Linck gang saw for logs or cants, 28x29—In stock
Marathon No. 300—28" x 28" gang saw
Marathon No. 400—14" x 28" gang saw

KNIFE GRINDERS

New Andrus abrasive belt, 32" knife grinder
Used 36" Fay & Egan No. 253 automatic knife grinder
Used American 30" knife grinder
Used American 32" straight wheel knife grinder
New Dependable No. 99A5 36" motor drive, automatic knife grinder
Used Dependable 36" knife grinder
New Dependable No. 101A sidehead grinder
New Defiance 38" motorized automatic knife grinder
Used Dependable 101A side head grinder
Used Berlin 275—36" Automatic knife grinder

FILING ROOM EQUIPMENT

New Armstrong No. 4 Stretcher Roll
New Armstrong No. 4 Band Saw Grinder
Used Armstrong No. 4 Band Saw Grinder
New Armstrong No. 54 Circular Saw Gummer
Used Armstrong No. 6 Band Saw Grinder
Used Armstrong No. 16 Circular Saw Grinder
New Marathon Gang Saw Grinder
Used Covel No. 140 automatic Band Saw Grinder
Used Covel No. 83 24" Gang Saw Grinder
Used Covel No. 217 RH Band Saw Grinder
Used Covel No. 90 LH Band Saw Grinder
Used Covel No. 150 RH Band Saw Grinder
Used Covel No. 109 Stretcher Roll 16" capacity
Used Hanchett No. 250 LH Band Saw Grinder
Used Hanchett No. 948 Circular Saw Grinder
Used Hanchett No. 724 36" auto. circular Saw Grinder
Used 12" Welding Clamp
New and Used Levelling Blocks

MILL EQUIPMENT

Used Cornith 1 man 2-saw trimmer 8' to 20'
New Wheland 1 man 2-saw trimmer, electronically controlled
Used 2-arm Log Stop and Loader, 36" arm, 12x16 cyl.
Used 3-arm Log Stop and Loader, 42" arm, 16x20 cyl.
Used 20' Portland Iron Log Turner
4-Used Gerlinger Carriers 42"
New Willamette Iron Works Swede—rubber rolls
Steel Deck with flippers
Used 10" x 12" full oscillating Nigger

NEW AND USED PUMPS

Used 6 x 4 x 6 Worthington Duplex boiler feed
Used Worthington 4" Centrifugal-1000 GPM
Underwriter approved Firepumps—many sizes
Boiler water feed pumps—New and used
Used 5" x 6" Fairbanks Centrifugal pump—500 GPM
Used 12" x 12" Westinghouse Centrifugal pump—3000 GPM
Used 8" Jeansville 2-stage centrifugal pump—2000 GPM

MOTORS

Used 250 HP 600 RPM slip ring and controls
New 150 HP 1200 RPM BB Allis-Chalmers
New 100 HP 1200 RPM BB Allis-Chalmers
Used 75 HP 1200 RPM SB General Electric
Used 25 KVS Westinghouse w/controls
New 750 Watt gas driven generator
Sawmill type gearmotors and reducers 3 to 10 HP
Large stock of used motors—all sizes

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671 GMC Deisel
Caterpillar Diesel Engine D8800
Caterpillar Diesel Engine D13000
New 20-HP Diesel Engine FM
11 x 12 Ames Center Crank 48 x 12 Pulley
62" x 20' 100 HP Code Boiler 195 lb.
54" x 14' HRT, ideal for dry kiln
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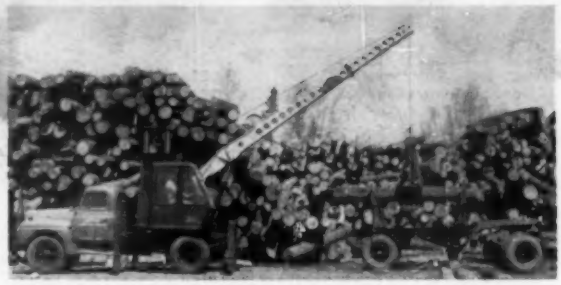
Machinery Views . . . . .

. . . from 'round the forest industries

In ORE.—35 New Diesels

• When F. J. Martin, president of 60-year-old Martin Bros. Container & Timber Products Corp., Oakland, Ore., decided to expand his fleet the company bought 35 new Diamond T Model 921N-SQDD's. These husky trucks are powered with the turbo-supercharged Cummins NT-6 diesel engine which develops 235 hp. The tandem rear axles are Timken SQDD's. Other equipment includes Westinghouse air brakes, Fuller transmission, Spicer 8031-G auxiliary transmission, Budd wheels and Model 80 Bostrom driver's seat.



Light Loader in WISCONSIN

• This light loading rig is a versatile machine employed by the Connor Lumber and Land Company of Laona, Wisconsin. The view here shows the Bucyrus-Erie Model H-3 "Hydrocrane" loading logs onto a single-axle trailer. The Hydrocrane also is used by Connor for piling logs and loading and unloading of railroad cars. This company is one of the largest lumber operators in the Lake States and has well-developed forestry and timber program.

Yard Work in MICHIGAN

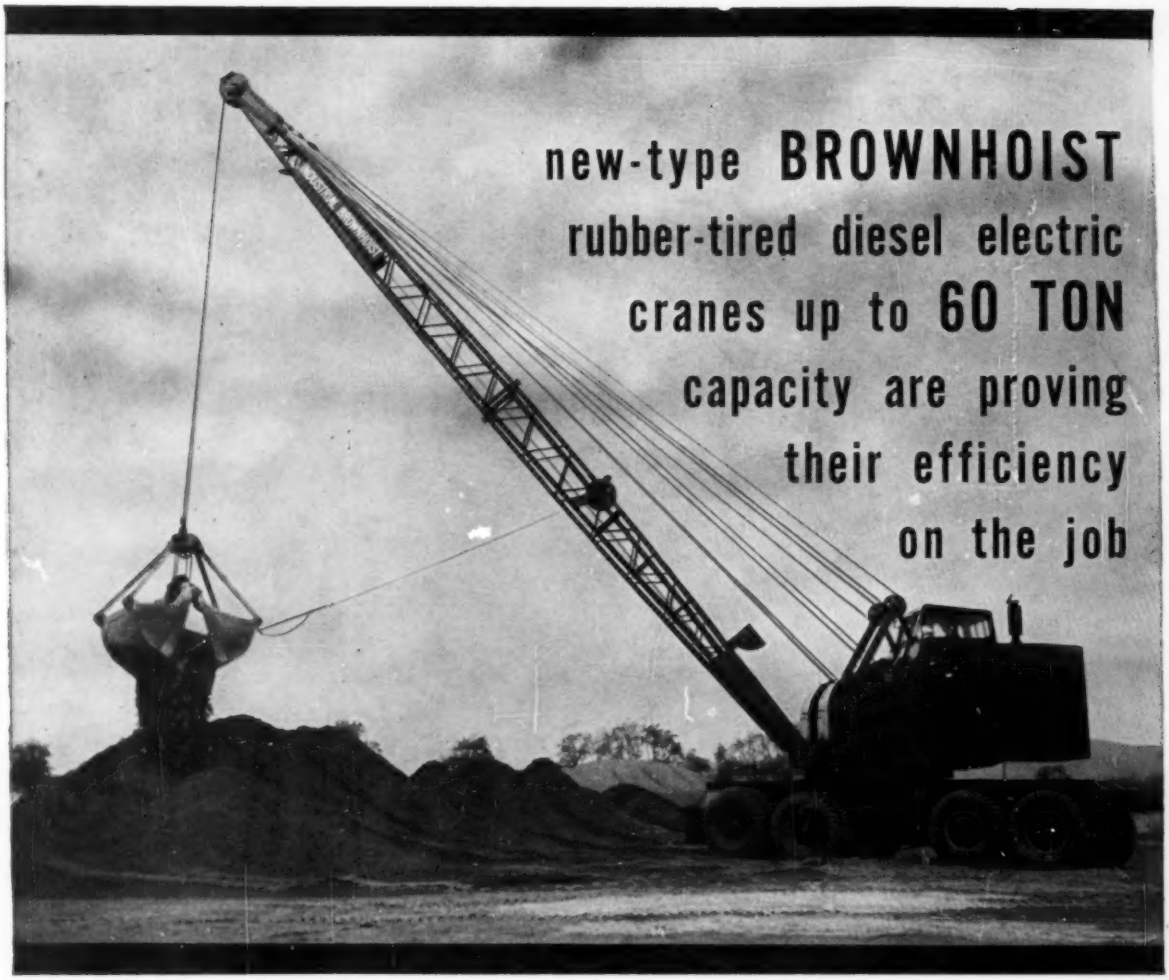
• Log sorting and selection operations are speeded up with the "Speed Swing" made by Pettibone-Mulliken and shown here at the Chassell Lumber Company in Chassell, Mich. The machine is owned by S. Godell. The front-end forks will swing around 180 degrees, with the loader remaining stationary. The large tires and a no-clutch planetary axle drive provide for operation on snow or mud; also the machine comes equipped with two or four-wheel steering. The forks can be replaced with crane hook bucket or snow bucket.

30 Below in MONTANA

• Six feet of snow and temperatures as low as 30 degrees below zero don't stop Will S. Warner of Columbia Falls, Montana, from loading out logs. Mr. Warner uses a 17½-ton Lorain Moto-Log Loader, Model MC-254W, with a 22-ft. 10-in. Lilco heeling boom and Berger hydraulic slackline puller to load out spruce logs averaging 1000 bd. ft. each at the South Fork of Cole Creek, 60 miles north of Kalispell. The Log Loader is also equipped with a two-way radio to help speed operations.

In Wash.—Loading Pine

• In the western pine region on the eastern slope of the Cascade Mountains in Washington, the Junior Kemp Logging Company uses this Caterpillar Tractor Co. Number 955 "Traxcavator" for loading. The 955 is equipped with a lift fork on the front end for loading onto log trucks. This particular operation is just east of the Cascade summit near Tieton. Use of tractors, both crawlers and rubber tired, equipped with front-end loading attachments have become popular in recent years.



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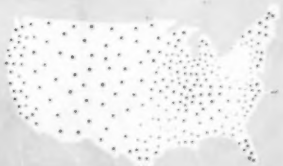

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